CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

AB 549 STAFF WORKSHOP

DRAFT CONSULTANT REPORT

STRATEGIES FOR ENERGY EFFICIENCY IMPROVEMENT

IN EXISTING CALIFORNIA BUILDINGS

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

MONDAY, MAY 2, 2005

10:00 A.M.

Reported by:
Peter Petty

Contract No. 150-04-002

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Commissioner

Arthur Rosenfeld, Commissioner

STAFF PRESENT

Dale Trenschel, Meeting Facilitator

G. William Pennington, Manager
Buildings and Appliances Office

Elaine T. Hussey

ALSO PRESENT

Peter. C. Jacobs, P.E.
Architectural Energy Corporation

Dan Burgoyne, Sustainability Manager
State of California Department of General Services

Jerry Blomberg
Sunoptics Prismatic Skylights

Nehemiah Stone, Senior Project Manager
Heschong Mahone Group, Inc.

Robert E. Raymer, P.E.
California Building Industry Association

Bruce Ceniceros, Principal Demand Side Specialist
SMUD, Planning/Customer Strategy

Michael G. Hodgson, President
CONSOL

Helmut Blum, Engineer

President, Blum Construction Co., Inc.

Patrick Eilert, PG & E

APPEARANCES (continued)

ALSO PRESENT

David W. Ware, Manager, Codes & Regulation
Owens Corning

Cal Broomhead, Energy Programs Manager
SF Environment

Thomas Conlon, VP, Business Development
EnergyCheckup

Stanley m. Wieg, Legislative Advocate
California Association of Realtors

Tom Hamilton, Executive Director
CHEERS

Randy Blake
Blake Air Conditioning & Service Co., Inc.

Eric S. Stern, Project Manager
Bevilacqua Knight, Inc.

Michael S. Day, Owner
Rockwood Consulting

Clare Bressani Tanko, Energy Efficiency Officer

Gregg D. Ander, Chief Architect
Southern California Edison

Jim Byers, Senior Procurement Engineer
California Department of General Services

Susie Evans, Executive Vice President
Institute of Heating & Air Conditioning
Industries, Inc.

Ron Bergeson, District Representative II
State of California Department of Housing and

Community Development

Bill Boyce, Supervisor
SMUD

APPEARANCES (continued)

ALSO PRESENT

Dale Gustafson
Sutter Buildings Interactive

Ed Lovelace
Southern California Edison

Charles Segerstrom
PG & E

Wayne Waite
HUD

I N D E X

I N D E X

P R O C E E D I N G S

COMMISSIONER PFANNENSTIEL: Good morning. I think it is probably about time to get going. Dale says that he is going to keep us on schedule, so I think that means that I need to stay on schedule.

Welcome to this workshop what is going to be I think a really interesting day of discussion about what I think is perhaps the most under examined part of what we are doing in energy efficiency, which is capturing the energy efficiency potential of the existing building stock in California.

I think most people would agree that we have done a pretty good job and a continually improving job of improving the efficiency in new construction, and that is no small feat when there are something like 200,000 new housing units built in California last year.

In fact, that as we know, is just a small part of what the potential is for energy efficiency is in buildings. The housing building stock in California is enormous. We need to find a way to get to that, to improve the efficiency there.

We need to find a way that is cost effective, that is technically feasible and that is non-intrusive to the general public. The first two we can I think pretty figure out and those are the same kinds of items we need to address for new construction, but the non-intrusive or finding a way to get into the market place with some action, some measures that make sense, make sense from the homeowner or the building owner, makes sense from the general public who would be overseeing this from the different parties to a different transaction if we are doing this as part of a transaction. We need to find a way to do that.

It strikes me that it is something that isn't well understood in the general public so far, that there are cost effective energy efficiency measures that you can adopt and bring into a building, an existing building, and you do so at some point in time when it makes the most sense, and that is partly what we are here to talk about today.

When do you do that, when does it make

the most sense, how do you find the right, and I think the terminology used in the draft report is the right intervention to get there. So, we at the Energy Commission are vitally interested, but even more than that, we need to report back to the legislature on some ideas on how to do that.

I think this is a great opportunity. It is now the beginning of May, we have a few months to think about what that report to the legislature is going to contain.

We have invited people here today to help us to begin that dialogue. It is a dialogue that will continue until -- Dale, when is the report due to the legislature?

MR. TRENSCHEL: October 1.

COMMISSIONER PFANNENSTIEL: October 1. Okay, I couldn't remember if it was October or November. So, clearly we are on a fast track to get it there, and so I ask for everybody's creativity and candor and courage as we undertake this important investigation.

With that, let me see if Commissioner Rosenfeld has some comments.

COMMISSIONER ROSENFELD: My only comment is that I support everything that Commissioner

Pfannenstiel. I wonder if you will indulge me and everybody else is supposed to have their cell phone turned off, but I would like permission to leave my on. There is a couple of calls I need to respond to. Is that okay?

COMMISSIONER PFANNENSTIEL: But of course.

COMMISSIONER ROSENFELD: I didn't forget, I asked first. Let's go.

COMMISSIONER PFANNENSTIEL: Dale.

MR. TRENSCHEL: That was my first comment was going to be turn off the cell phones, so thank you.

My name is Dale Trenschel, I am the Project Manager on this AB549 project, and I just want to thank each of you for being here today. I know you could have been somewhere else, and also I believe we have a couple of people that have called and are participating by conference call, so thanks to them as well.

To be heard at the meeting today, you are going to have to move up to the microphone, and if you are not able to sit around the table which we were hoping to be able to get everyone around, but if you are not able to do that, the podium is available if you do have other comments you would like to make, just step up to the podium and feel free to do that as we go along.

How many people here have already been exposed to this Project 549, I think there is a lot of hands here. Maybe it is easier to say how many is this your first exposure to this project or the content of? Okay, then that means I can skip the first four slides. No, just kidding.

I'll just start right into it then. AB 549 is sponsored by the California Building Industries Association, and I have representatives here today from that association. There were some concerns that they expressed, and those were that the Energy Commission emphasis that we place on new construction really meant that there wasn't too much being done in the existing housing market. A large volume or large stock of houses are out there that really don't -- there aren't really energy requirements for them at any point in time. Once that building is built, it is really the occupants that either do or don't do anything in terms of energy efficiency to the building.

They estimated that about 80 percent I

guess is the figure for housing built before the standards in 1983. So, that there is a large savings potential in that market. Also that with new constructions, the standards can place the new construction market or that portion of the residential market at a disadvantage because that is heavily regulated whereas there are very few requirements in the existing housing markets.

AB 549 was chaptered back in 2001 and basically directs the Commission to investigate options and develop a plan for decreasing wasteful peak load energy use in existing residential and nonresidential buildings. Of course, what the result is that we put that plan together into a report and deliver that to the legislature as already mentioned.

There was a Phase 1 Interim report that was prepared and sent to the Legislature in December of 2003, and I will talk just briefly about that in a minute.

In that Interim report, there were several items that were contained in it, and one was the characterization of the existing residential and non-residential building market in California. So, based on this census data, there were something on the order of a little over 12 million households, existing buildings in the residential side.

We don't think we are going to reach all of these 12 million buildings with this project that we are putting forward here, but we certainly want to make a significant dent if we are able to.

The rental units accounted for a pretty large percentage and that presents a problem all on its own, a separate kind of issue that the tenants don't have incentive to invest in upgrading a building that they don't own, and the owners and frequently aren't the ones paying the utility bills, so they don't have an incentive to improve efficiency also.

On the nonresidential side, something on the order of the 6 billion square feet, and if we add up these three largest occupancy types, almost half of the nonresidential building market are characterized by large offices, retail, and warehouse operations. 20 percent we estimated built before the efficiency standards and the report also drew attention to the fact that schools and colleges are good opportunities for efficiency gains because they are typically much older structures, and they don't have the funds to make those upgrades.

Since that interim report, we've been busy and especially Pete Jacobs here, who I will introduce in a minute, have been busy thinking about and also asking lots of people about what kind of options can we take to make an impact in the residential market and the nonresidential market.

Here today is Pete Jacobs from Architectural Energy Corporation. They have been doing a lot of work I would characterize it in these very briefly bullets here. Literature research as they been combing the literature, seeing what's been done before, what kind of information there is available.

They have been interviewing people that have particular expertise in some subject matter, and I think I see several of them around the table.

They have done a cost effectiveness analysis, and they have been working on developing and prioritizing these strategies. I guess we will use the word strategy interchangeable with intervention at this point onward.

I've been working with -- also put together some working groups and expert panels.

We have an interview phase that a portion of the work where they were basically phone interviews, rather lengthy interviews.

Now we also have two working groups that we put together, again, some of the same people that I see in the room here today, so thank you again for being here.

We had a residential and a nonresidential working group. The residential working group had about eighteen or so people represented, and we met in December of last year. We basically posed to that working group what are some of the early ideas of the early interventions. What kinds of trigger points that they think were good for us to pursue further. What events in the life of a building would present an opportunity for something to be done one way or another in terms of improving the efficiency of that building.

On the nonresidential side, I think we had about twelve or so people represented, and they met in January of this year.

The expert panels. Again, we split that into residential and nonresidential side. The items, the bullets that I have here, are really kind of our abbreviated titles for what we wanted to label those working groups, and there were probably three to six people that we discussed at greater length some of the ideas that were presented by the larger working group.

We had an information to all homeowners category which was -- Pete can talk a little bit more about that later. A Time-of-sale when the property is sold, is that the opportunity, the best opportunity to intervene into the market place in some way or another.

We had someone on whole building diagnostics, on the testing and the diagnostic side of buildings, and we looked at multi-family buildings a little bit as well.

On the nonresidential side, some of the issues that came out from the larger nonresidential working group were benchmarking and training and certification. So, we formed a couple of smaller panels to discuss those items at more length. On the benchmarking side, there was one panel that looked more at the technical side of benchmarking, what tools are out there, what has to happen to those tools, and are they useable the way they are, or how would we want to modify them, more of the technical issues.

Another group as well which was I would say represented by -- we did have some nonresidential, some commercial building proper owners represented as well to say well, how are we going to use this. If we did have this tool, then how would we make it work in the market.

Some of the trigger events, this was an earlier laundry list of trigger events, Time-of-sale, which if you've had an opportunity to read the executive summary, you are probably acquainted with that already to some degree. Time-of-lease, Change in occupancy in the structure, we had this one commercial property owner say, well, we refinance our buildings ever four or so years, and that is a key trigger at that time of refinance would be an idea. That would be an opportune time again to look at the efficiency of the building and see what kinds of cost effective measures could be added at that point.

Rate hikes, large remodels, mold remediation, reroofing, all of these things. I won't read each of them, but this was a larger list, and from this, we sort of funneled it down a little bit more so that what you don't see -- I believe what is not in the draft consultant report now are things like mold remediation, although maybe we do give some mention to it, but we don't dwell on that subject too much.

We are here to hear from you today as well about that, we don't want to prejudge anything and say, well, that's not important, but we really want to hear what you have to say about these items.

On the intervention side, there was another earlier laundry list, what can we do as a mandatory measures, what about air conditioning tune-ups, retro-commissioning for commercial properties. If there is a third party verification stage involved, and maybe that is an idea, a way to get in there and have a building checked or diagnosed and then have the systems that are put in rechecked by an independent party.

Control systems, home energy ratings. We talked about that quite a bit in this Draft Consultant Report as it relates to the time-of-sale for a residential property.

Again, a longer list and down at the bottom then was all of these, an option which was maybe we need to expand some of the authority and

Title 24 and the Title 20 standards for appliances.

Just to give you a little heads up on where we go from here is that I am expecting that the contractor final report will be posted on our website in early June of this year.

From this workshop, we will take the comments that have been offered to us and start to work on a Commission report to cover some of the same subjects that the contractors cover, but there will also be reflecting the staff views and perhaps the Committee views on some of the items that will be contained in that report. I think that will be towards the end of June time frame.

The workshop, we will have another workshop on that Commission document, whether that will be a staff report or a Committee report, it remains to be seen just yet, but we will have another workshop on that to take comment on that probably in mid July. I think that my recent check sources that I have is July 11 probably won't work, that is why I am glad I put tentatively there, but it will probably be the following week or as soon as thereafter as we can.

As well as we are today, accepting

public comment on that document beyond the workshop date through the end of the week.

We were planning to have this adopted, put forth at the September 21 Energy Commission Business Meeting for adoption by the full Commission, and then we don't have too long to make copies and get it over to the Legislature after that.

I guess I could hand this over to Pete Jacobs of Architectural Energy Corporation. We do have some time on the agenda scheduled for questions. At that time, it would be good, I think, to hear Pete and then we could have a few questions on either what I had to say or what Pete has to say before we start the next part of the agenda.

MR. JACOBS: It sounds good. Thanks everybody. I will make a brief, public health announcement. I've got a cold. If you don't want to shake my hand, I understand. I'm well stocked, but in any case, get that one out of the way.

Just another just sort of general

housekeeping item, these round microphones, these are for the folks on the phone, so we've kind of got two sets of mikes here. These are the house mikes, these are the phone mikes.

MR. TRENSCHEL: One more clarification from that. We are recording the workshop today, and our court reporter sitting there on the corner of the table is making sure that he picks up whatever anybody has to say. So, these small microphones are for the court reporter. These are just for our room and amplification so that people on the phone can hear us and elsewhere in the building or even on the internet.

MR. JACOBS: Got you. Do we want to role call the folks that are on the phone?

MR. TRENSCHEL: that might be a good idea. Let's go ahead and do that now. Anyone on the phone there that wants to say who you are and where you are from?

MR. GUSTAFSON: This is Dale Gustafson from (inaudible).

MR. TRENSCHEL: Anyone else?

MR. LOVELACE: Ed Lovelace, Southern California Edison.

MR. SEGERSTROM: Charles Segerstrom, PG

& E Training Center.

MR. JACOBS: Thank you. I guess as people take comments or give comments rather, just be sure and state your name.

MR. TRENSCHEL: Especially for those that are on the phone, the telephone conference so the court reporter knows who you are. It is harder to tell voices, but if you do have comments to offer, and it would good if you had a business card to provide to the court reporter, then I think he will tag you and read your lips and be able to assign the comments to the proper person at the table.

MR. LOVELACE: This is Ed Lovelace. I have a comment. Can you hear me?

MR. TRENSCHEL: Yes, go ahead.

MR. LOVELACE: Dale, I can hear you very well, but I cannot hear Jackalyne or Art very well. I don't know if they are using a different microphone or perhaps they were too far away from the microphone.

The other thing I want to comment is that there is a lot of paper shuffling next to the microphone.

MR. TRENSCHEL: I'm sorry, I didn't

catch that.

MR. LOVELACE: I said there is a lot of -- it sounds like there is a lot of paper shuffling next to the microphone.

MR. TRENSCHEL: That is always a good housekeeping comment, so I appreciate that.

MR. LOVELACE: It makes it a little bit difficult to hear, but if people could just, you know, take note of that, I am sure it will improve the communications a lot. Thanks.

COURT REPORTER: Who is speaking again over the phone?

MR. JACOBS: It's Ed Lovelace with Southern California Edison. Okay.

MR. LOVELACE: Are you addressing me?

MR. JACOBS: The court reporter wanted a clarification.

MR. LOVELACE: Okay, good.

MR. TRENSCHEL: One other thing is people at the table, if you do want to turn off your microphone, you can do that if you would like to. Just make sure you put it back on again before you have anything to say. Thank you, Ed.

MR. JACOBS: Okay. What I would like to do right now is just kind of give a brief overview of the project and how we approached it. Leave some time for general questions about the project itself, and then we are going to launch into each of these candidate interventions. Basically, the approach is I am going to make a few brief opening statements, probably about a minutes worth, and then we've got fourteen more minutes per intervention to take comments.

The intent here is for us to answer clarifying questions as they come up, but to basically not spend a lot of time in dialogue. We really want to hear from you, so I am going to try to make my comments brief and open the mikes up as soon as we can and get as much public input as we possibly can.

The next one. Just a brief overview. The Project Team, I work for Architectural Energy Corporation, we are the prime contractor. We had several subcontractors involved. I wanted to acknowledge real quickly Davis Energy Group on the residential technology side, Lutzenhiser Associates from Portland, Oregon on behavioral and social research. Mort Blatt commercial technology research, RLW Analytics in Sonoma market research, SKV/ACCI our DV contractor in Hayward, they did market research and analysis for us. Then Tecmarket Works out of Madison, Wisconsin, market research and analysis.

The project is supported by PGC funds, thank you, and also through Energy Commission, the Energy Resources Program Account funding. So, that is where the money came from.

We had an advisory group that consisted of the Commission, the California Public Utility Commission, and members of the IOU's since this is primarily a PUC funded project. We had good representation from the utilities on our advisory group.

Our mandate for the project was to look at both market and regulatory approaches, so we tried to take somewhat balanced view looking at both the market and the regulatory side. We also were mandated to address issues both within and outside the scope of traditional CPUC and CEC activities. We were kind of inside the box, outside the box, and straddling the box with some of these issues.

As you may have noticed, our project team is filled with market researches. We had a few token engineers on the crowd, but for the most part it was market researchers. So, we took very much of a market perspective in this project looking at from essentially from the end consumer looking at what some of the barriers are, who the market actors are, and so forth.

We spent some time developing some market actor network diagrams and really trying to understand who the players are and what the leverage points are and who the important pinch points and so forth are in some of these markets.

We also looked at some of the consumer behavior, especially with the work from Dr. Lutzenhiser.

In terms of barriers to adoption of efficient technologies in existing buildings. Several important barriers came out of a literature review that we did.

Participant barriers, lack of awareness of the problem. Believe it or don't, lots of people out there are just -- it is just not on their radar, skepticism that anything that they might do would actually have an affect.

In terms of products, obviously, first cost is always a hurdle with equipment that is more efficient or more expensive for first cost.

Also performance uncertainty, you know, if I do pony up the extra money, am I really going to get the savings.

Market and market operation barriers, traditional barriers, lack of professional expertise, the lack of people that can really advise and tell you what to do. Lack of both usable and trusted information for consumers to take action on.

In terms of the product providers whether or not the product is even available. If so, how quickly can it be ordered in if it is not off the shelf. Familiarity and expertise, do people have familiarity with the products that we are trying to promote.

On a purchase, from a consumer perspective, when you get down to the purchase decision, you know, what are some of the barriers to laying the money on the line, and part of it is people need to get comfortable with it. They need to kick the tires, they need to know it is going to work. So, those are some of the important barriers that came out of our market research.

From that, we also looked at this one, the existing portfolio of efficiency programs that are currently operated by the utilities and third party implementers under the auspices of the CPUC.

Part of doing that investigation was to

look at some gaps, this being an opportunity to perhaps address some things that are not particularly well emphasized with the current suite of programs.

On the residential side, the program emphasis is clearly heavily on CFLs. As it turns out, almost 80 percent of the residential portfolio in terms of Gwh savings is represented in CFLs.

Refrigerators, programmable thermostats were a big item, almost 40 percent of the therm savings, pool pumps and central AC.

On the measures that are generally not promoted highly within the current suite of programs are shell measures, HVAC tune-ups, duct sealings, evaporative cooling, and other non-compressor alternatives in service water heating. So, there's a gap.

On the commercial side, as you might expect, lighting is almost half of the expected savings, energy savings. HVAC upgrades, energy efficient motors are well promoted. Things that are not well promoted within the current portfolio are refrigeration, energy efficient office equipment, and commissioning and retro-commissioning. It is certainly starting to get some attention, but not nearly good, the level of some of the other measures.

In terms of general strategies with the current portfolio, a lot of emphasis on retrofit remodeling and new construction, but not much emphasis on repair events, building sale, or finance/refinance events.

In terms of individuals targeted. Certainly the main emphasis for existing programs is on the end users and starting to be some interest, especially with some of the local government initiatives involving local governments and organizations, and builders and contractors.

On the gap side, not much emphasis currently on upstream type of interventions involving the manufacturing community. Certainly not a lot of interaction, current portfolio both with the real estate and the lending communities.

In terms of market intervention strategies, rebates are certainly the big ticket, a major emphasis on rebates, also on information design assistance, audits, and to some extent direct installation programs run by third parties and utility local programs going after certain markets.

However, not a lot of emphasis on upstream market interventions on financing programs or on demos.

With that in mind, we sought to put together a series of interventions/strategies/activities. At this point, we've got a fairly long list. I expect that based on comments we get today and through the end of the week, that we will probably narrow that somewhat, but we took together a set of strategies.

The overall objectives in developing this set of strategies is that we wanted to address some of the important market barriers from a consumer perspective and also address some of the program gaps looking at the current programs and what some of the gaps were in the offerings and see what we might be able to push forward to address some of those gaps and also focus on key trigger events that right now are not necessarily emphasized.

In terms of our overall portfolio, we want to look at a series of strategies that are mutually supported. So, we looked at sort of the synergy between these different strategies, how these things could hook together, how they could work together to advance the overall objective.

We wanted to try and create a balance on both the residential and the commercial side, so we've got strategies to address both sectors. We certainly wanted to make sure that we kept the issue of equity on the table. So, we spent some time considering how some of these strategies may influence hard to reach markets.

We wanted to strike a balance between both regulatory and voluntary approaches, and I think part of the last one is perhaps the most important is as we start moving towards perhaps some regulatory strategies is that we need to make sure the capacity is there in the marketplace to deliver before we start pushing some of these ideas forward.

I just wanted to make a brief statement on market versus regulatory approaches. Certainly this came up a lot in our discussions with interviews and working groups and our expert panels and so forth.

We heard pretty loud and clear that most respondents generally favored market approaches, at least initially over regulatory approaches, at least regulatory approaches that are brought on quickly.

The idea is that we certainly need to build confidence among the market actors and the types of initiatives that we consider pushing forward and also we need to build capacity in the market to be able to deliver. So, I think that is one issue we heard loud and clear.

Starting small and build support for some of these initiatives partnering with local governments or organizations doing pilot projects within supportive jurisdictions to you know build confidence and so forth and gain experience.

Regulatory actions where they are desirable, our recommendation would be to phase those in, in a manner that allows the market to build capacity to respond.

I just want to just quickly run down our portfolio of strategies that we put together, and just give you a brief idea of where we see these fitting into the whole, and then we will take a little break, take comments, take a little break, and then we will pick these apart in detail.

The first one, as Dale mentioned

earlier, information to all homeowners. We see the primary role for this as our information portal. This is where people go to get their information and figure out what to do next.

That is the primary role. We've got a residential time of sale energy rating intervention to address the important trigger event that occurs when property comes up for sale.

Residential equipment tune-ups and operation and maintenance addresses a key program gap. We feel like there is a lot of opportunity there and we would like to see that move forward.

Whole building and diagnostic testing also addresses a key program gap. We have an intervention on low income multi-family housing that I think from an equity perspective we wanted to push that forward realizing it is kind of tough nut to crack and may slide under the radar in some cases, but we want to make sure that particular sector has some attention.

On the commercial side, commercial building benchmarking, those of you that have followed the Green Building Initiative, some of these things will sound awful familiar, but there's certainly an initiative under the governor's executive order that we are very much in support of with benchmarking. We see this as a key work as the primary information portal on the commercial side.

Retro-commissioning as filling an important program gap to see those strategies get greater prominence in the community. Geo-efficient commercial leasing, looking at ways of structuring leases to attack the split incentive barrier that is a major hang up with commercial lease property, filling that market barrier at that particular trigger event.

Upstream interventions, manufacturing partnerships, we would really like to get some ideas on that. We feel like that can be an important strategy to pursue, it is a program gap at this time.

Procurement as a way that the state can help build infrastructure and then build capacity in the market to deliver energy efficient products and services.

The concept of branding and some of the

issues around branding as they effect both program
design and consumer choices basically as a way
outside of the current set of programs and

activities to help support the key component to consumer choice.

In terms of information and training and this whole concept of capacity building, information, case studies, and demonstrations addresses a key market barrier in terms of people making that decision to really feel comfortable that the decision they are making will be effective for them in the long run.

Also technical training and certification to help build infrastructure and also to provide some important assurances to consumers that the products and services that they are getting will be well delivered.

The last one, we've got some over-arching policy initiatives. Certainly we want to discuss demand response, it is a major initiative for both the CEC and the CPUC. Our approach to discussing demand response has to do more from a consumer perspective, sort of what the consumer's view is and how to adjust some of the consumer issues with demand response.

We have very much outside the box on strategy. We love to take comment on called efficiency choice risk protection to also address important barriers from a consumer perspective on how to help ease that purchase decision.

Certainly as we've gone through this and taken comments from folks, we've heard a lot about coordination and how the whole delivery of efficiency programs through the various entities involved could be better coordinated and then more mutually supported.

With that, let's take some comments and take a little break.

MR. TRENSCHEL: We don't believe in breaks around here. I'm kidding. I just want to take a minute to apologize to this person right here. He is a man who needs no introduction, that is why I didn't introduce him, Bill Pennington, Office Manager of the Buildings and Appliances Office, so anyway --

MR. PENNINGTON: I'll leave that alone.

MR. TRENSCHEL: Let's see, if there are any questions I guess as we have some time for questions here for a few minutes before we head into looking at some more of the details on intervention.

MR. JACOBS: I think for this particular session or this particular comment period, let's not get into the details of the interventions yet because we will have plenty of time for that. This is more sort of general clarifying questions about the project in general.

MR. TRENSCHEL: All right.

MR. BURGOYNE: I have a question.

MR. TRENSCHEL: You need to state your name, I guess, we will try to state your name first.

MR. BURGOYNE: Dan Burgoyne, I'm with the Department of General Services. My question was you mentioned all of the groups and people that you interviewed on these topics. Could you classify where they came from, what were they users, were they technical people, give us a little background on what areas they were from.

MR. JACOBS: In general, we basically had two sets of interviews, the first set of interviews we went out and interviewed primarily program managers, efficiency program managers to get their perspective on both from the utility and third party side.

Then other interviews were what we called (indiscernible), and there was a range of people, I classify them as techies in some cases, all folks that are on the market side, and others on the policy side. So, we tried to spread those around.

Some of the details of those interviews and who those folks are and so forth are actually in the appendix to the report, which will be up on the website soon.

MR. BURGOYNE: Any users or owners?

MR. JACOBS: We didn't get down to the end user or owner. We did not have opportunities to do focus groups with consumers or anything like that, so we had to take a step back and rely more on folks who we felt could represent that perspective.

MR. TRENSCHEL: One clarification on that, on the commercial side, we did have a few property owners represented, and that is where we got some of the ideas from that expert panel.

MR. BLOMBERG: Yes, Jerry Blomberg, Synoptics Skylights, I just needed clarification. On the commercial side, you brought up the subject of lighting, and lighting can be electric

lighting, and you forgot about day lighting, or
did you include that in that term lighting?
MR. JACOBS: In that first slide, the --

I went through and I looked at all the program plans that had been submitted for the 2004/2005 portfolio, and folks classified lighting in different ways. Some of it was classified strictly as LPD reduction, and some of it was more of what they call comprehensive lighting, which I am assuming was primarily LPD. So, the contribution of daylighting as it was called as a specific measure, wasn't in that 49 percent figure.

MR. BLOMBERG: Big oversight. We happen to produce a mega watt of peak reduction every week at our plant. It is such a simple thing that it is overlooked as a real important strategy.

MR. TRENSCHEL: Thank you. Nehemiah.

MR. STONE: Nehemiah Stone, the Heschong Mahone Group. My comment is more of general comment. I noticed that in most of the things where multi-family could be included, it was not. Residential meant single family, and this one item for low income multi-family which separates it out in a way that is not I don't think really helpful for being able to come at a lot of what the strategies would be and what the barriers are.

I would just encourage you to go back

and take a look at the things that are listed as residential and don't just think of residential as being single family, but look at multi-family and see if there are some of those strategies that help there. I've got a lot of specifics, but as you said, this is probably not the time for that.

MR. PENNINGTON: My comment would be that we singled out multi-family as a special opportunity and didn't do what you said.

MR. STONE: Right, but part of the problem with that --

MR. PENNINGTON: I don't want to discuss that --

MR. STONE: -- came out very clearly in something that you said, Pete. You said that the low end multi-family sector initiatives were included for equity purposes, recognizing that this market is a hard nut to crack. You know, that is not necessarily true.

A lot of the things that you were saying that are not being addressed, we have programs to address, and others have programs to address, and if you get the economics right, it is not a hard nut to crack. If you ignore the economics, it is a real hard nut to crack.

MR. TRENSCHEL: Any other --

MR. RAYMER: Bob Raymer with California Building Industry Association. As the sponsor of the legislation that we are talking about here, listening to the introduction this morning, there is still one statistic that wasn't mentioned that we want to bring up that was the primary moving force here. That is we only add about one percent to the new housing stock every year. That is not to discount the benefit that comes out of the energy efficiency race for new construction. Not at all.

What you can do there can certainly be probably the most efficient ways of reaching energy efficiency at time of construction. However, it helped point to the fact that when you do keep focusing solely on energy efficiency for new construction, you are sort of missing a much larger boat.

On the two workshops that I attended, I use the example where I grew up in Tuolumne County at about 5 1/2 thousand feet in elevation. The house that we lived in had no insulation in the walls, it had R7 in the ceiling, and when homes back in those days had insulation in the walls, it was usually done for sound attenuation, not necessarily energy efficiency because PG & E was saying the more energy and electricity you use, the lower your rates are going to be. They even gave awards for that, so times have changed.

However, we are hoping that the Energy Commission is doing exactly what we had envisioned here, and that is, develop a report, balance it off of stakeholders, and fine tune it before you send it to the Legislature, and from this, hopefully, there will be a series of things that we take forward.

With that, thank you very much.

MR. TRENSCHEL: Thank you, any other comments. Bruce.

MR. CENICEROS: First of all, my compliments on coming up with a very comprehensive and far reaching set of initiatives here that I think will make a big difference if we can accomplish all of this.

I did notice that a lot of the strategies were phrased as this should be done, and there is a need for this, that kind of terminology. I'm sure at some point, you want to get to something that more resembles an action plan that says who does what by when specifically for all of these areas. Is that stage going to happen in the staff report to the Legislature? Is it going to contain a level of detail? Are you going to anticipate that will have to come after you've made more general recommendations to the Legislature in smaller working groups through each initiative?

MR. TRENSCHEL: I think that there's an opportunity right now to bring those kinds of comments forward to say if there is an interest group or party that people here feel would be ideally suited to pursue one of these interventions, then by all means we should feel open to take those comments and work them in.

If we take them here, they could be worked into the final version of the consultant report, but certainly in the commissioned report we do have to include those who does what by when kind of items. There could be some further addition to the who does what by when in the final consultant report, but certainly in the commissioned report we will have to address that.

MR. CENICEROS: By the way, Section 7 is a good start to that, it just doesn't contain a

lot of detail on a page and a half, and I think
you will need to lay out quite a plan there in
order to pull it off.
MR. TRENSCHEL: All right, any other
comments?
MR. HODGSON: Mike Hodgson representing
the Building Industry Association. Just kind of a
point of I think information, Pete, if you could,
Section 6 is the cost effectiveness and market
policy readiness section. Is there any technical
detail on what potential energy savings are
available on the retrofit side of the market, or
this is the analysis?
MR. JACOBS: There's actually more
details in the appendix to the report, and that
will go up on the website soon I believe. Quite
frankly, we are sort of in process with that. I
think kind of depending on how the discussions
today go, there are certainly some calls that we
are going to have to make in terms of how likely
some of these strategies will be to move forward
and under what form, whether they will be more

voluntary or more regulatory.

I think our potential analysis at this point is in process, but there are some more details to the data that is presented in Chapter 6 in the report appendix.

MR. HODGSON: Okay, it would be really important for the building industry to look at what potential savings are out there prior to looking at what the intervention and strategies need to be. So, we need to know what section of the market we can go after. We need to know what potential is out there so we can make some reasonable conclusions as to what approach we should take to the market, so I really look forward to looking at more detailed than what is in Part 6 right now.

MR. TRENSCHEL: All right, thank you. Other comments? Yes, sir.

MR. BLUM: I have more like questions.

MR. TRENSCHEL: Your name, please.

MR. BLUM: Yeah, I am Helmet Blum. I'm the owner of European Rolling Shutters, we do exterior shading devices.

I know when I started, I was rejected in my application to get the rebate, and I was told that might happen when on retrofitting homes, the windows would be changed on old homes. Is the time they come, or is there something done already, a little bit off what you said, maybe a little bit more detail, and maybe somebody can answer it in a later discussion.

MR. PENNINGTON: My understanding is that what you are referring to is your wish to get incentives through existing utility incentives programs for your devices?

MR. BLUM: Right.

MR. PENNINGTON: Getting down to the details of changing that recommendation, that's not the subject of this meeting today, but we are looking widely at a variety of technologies in the report, so in the context of that, your comments are relevant.

COMMISSIONER PFANNENSTIEL: Excuse me, though, I would like to expand on the question. Will in the context of this report and the subsequent variations on it, allow some consideration of different measures I think, different than we currently are looking at for new homes, but rather for existing homes, for retrofits of existing homes for such things as the external rolling shutters, which may not qualify under new homes be something that might qualify under existing. I think the question is just will the set of measures be expanded perhaps.

MR. RAYMER: I'm envisioning a complete -- I am viewing this as a brand new slate, you know, that we are kind of starting off with, so to me, anything is up for grabs.

COMMISSIONER PFANNENSTIEL: I think that is an important understanding that they have on the table.

MR. BLUM: Let me explain a little bit. You see, I have proved, and I can give you hundreds of letters, there is a substantial saving on exterior shading, however, it was rejected because PG & E and whoever concentrated and said only if it is some sort of a static thing plugging in or a light fixture, you know, but something which is moving, you do not have the guarantee that it will be used and really is, you know.

I'd like to oppose and say okay, take the average, the average is still better than whatever I know so far.

MR. TRENSCHEL: Thank you.

COMMISSIONER ROSENFELD: Actually, I am

going to put the heat on Bill Pennington a little bit. This is, of course, and old problem. You don't know whether people are going to plant trees, you don't know how well a tree is going to shade the house, and you don't know how people are going to use your shade.

I myself also tend to have the prejudice that average is good, but it is not just a problem for existing houses, it is a problem for Title 24, and did you want to say a couple of words in defense of the present policies.

MR. PENNINGTON: I think he is commenting about whether or not these measures are advocated or eligible for utility incentives, and that is not the subject of what we are talking about today. You know, I think this report is trying to go from top down in terms of decision making and recommendations to the Legislature.

We are trying to identify trigger events whether it is opportunities we are trying to identify interventions and program strategies that can go after that. We are not necessarily trying to sort through the thousands potentially of individual measures and deciding whether we want to sort of tweak the priority on one measure versus another measure. I wouldn't rule that out as being outside the scope of our discussion, but it is not the highest priority for our discussion.

COMMISSIONER PFANNENSTIEL: I concur with that, but I do think the policy issue is the one that we've kind of put on the table just now is that for existing homes, the measures that we are really talking about may be different than the Title 24 measures. Title 24 existing incentive program measures, I think that is an important policy issue that we do want to get on the table for this discussion.

MR. BLUM: You know, I thank you. You see the practical sense of a woman. I like to come under I have 90 percent of my customer complain why did we not know about you earlier, what is government is doing, that is why basically try for a year to get the homeowners association bylaws change that they cannot deny exterior shading devices. Some don't, but most of them do in 70 or 60 percent of houses association.

Sorry, I understand what you are up to, but --

MR. TRENSCHEL: Okay.

CHAIRPERSON PFANNENSTIEL: Thank you for

your comments. They are useful.

MR. TRENSCHEL: Okay, in the interest of herding us along through the day, do we have one more comment?

MR. EILERT: One more.

MR. TRENSCHEL: We have one more comment.

MR. EILERT: My name is Pat Eilert, I work for PG & E. It seems like before we get to final who does what by when types of decisions here, that the general outline of what this thing is and where it is going needs to be presented to the managers, the decision makers of the IOU because admittedly, this can feed back at some point in the future on the programs, and I think it would be good just to kind of get everyone on the same page to the extent possible sooner than later.

MR. TRENSCHEL: All right. Let's -- Nehemiah -- okay.

MR. STONE: I'd like to add one thing. It is not -- third party program managers, not just the IOU program managers because a lot of third party program managers are dealing with a lot of the retrofit issues.

MR. TRENSCHEL: Okay, let's move on to the next segment here and put this back in Pete's hand again to talk a little bit more about the interventions themselves that are proposed, and thank you for the comments up to this point. Those are good points to take. Let's move on to information to all homeowners.

MR. JACOBS: Basically the drill is going to be for all of these. I'm going to put up a slide and try to get through it in a minute, and then we are going to open the mikes. So, I appreciate everyone's comments up to this point, and we look forward to lots more.

Our first strategy is what we call "Information to All Homeowners". It is basically a voluntary strategy, it does not have any particular trigger event associated with it, but it is more encompassing of all potential opportunities. We view this as the information portal, a very important focus for consumers to figure what they can and should do.

Our proposal at this time is to basically have this designed around utility customer service website, provide some feedback on energy consumption of buildings through that interface, provide a means to do some preliminary energy audits based on information entered by the homeowner in whatever detail they are willing to go into in terms of time and level of effort, and also use this as a strategy to target buildings that have the highest efficiency potential, both from an energy consumption, the high consumers as well as those customers that show enough interest to go a few levels deep into the interface as to target those individuals for additional services which would include on-site surveys, direct installation of measures through existing programs if they are qualified, and referrals to rebate programs for those that would qualify there.

We see this as an important link to existing programs and also to financing opportunities. So, our specific recommendations are to expand the use of the utility website as information portal, provide information to all program implementers, both utility and non-utility implementers, and also look at ways to develop some financing options to cover that program gap.

With that, microphones, please.

MR. TRENSCHEL: Nehemiah.

MR. STONE: The only comment I want to

make is that the history of on-line programs and being able to accurately give the homeowner or property owner a reasonable estimate of what options will get them efficiency improvements cost effectively and what those improvements really mean is really bad.

I would recommend that if the Commission is going to go down this path, that you take the same level of rigor with a new program that everybody can use as you take with the current Title 24 compliance programs, with public process and kind of outlying what needs to be there.

I was part of an analysis for a national group at one point to look at all of the ones that were out there and I didn't find any of them that would not recommend that you put a better efficiency air conditioner in my home when I started off telling each one of those programs that I have a passively cooled home with no air conditioning. So, something needs to be better if you are going to use an on-line tool.

MR. TRENSCHEL: All right, yes.

MR. HODGSON: Mike Hodgson, CBIA. I may be blending things together, and I apologize for being repetitive, but I always bring up the infamous (indiscernible) process for residential retrofit.

A lot of this already exists on the web.

What we have is the infrastructure out there, new construction. We need to have that infrastructure in existing. We have Tom Hamilton here from CHEERS who has a web based program which you could actually go in and walk right through, however, we don't have the auditors certified, and we have been looking for that for a few years, about seven to ten.

I see that is under the next category, so I may be jumping ahead, and I apologize, but really the backbone of a web based interface is there. They have multiple services already. What we are looking for is an infrastructure to support it. We would encourage that proceeding to get started, reinvigorated, and I'll not comment on the next one because I think it is the same comment, and I apologize because I think they go together.

MR. TRENSCHEL: All right. Up to the podium, Mr. David Ware.

MR. WARE: David Ware, Owens Corning. I am assuming what this particular slide is implying is that the web base interface information is one of the most widely used and widely available and an avenue to disperse information to the widest format.

I may be off base, and I think there is some fallacy in that. Not every residential homeowner -- let me back up for a second. While there is very good uses from the internet, we should not presume that most residential customers and renters are going to utilize the website to find information. Most web information and people use the website know what they are looking for and where to go.

We at Owens Corning continue to struggle with making our own website useful. We do about every eighteen months we do focus groups around the country and we continue to get conflicting preferences by those focus groups. It is very difficult to structure a website with the correct information to please everyone.

So, I would hate to think that this item is your primary portal, pun intended, to disseminate information of energy conserving measures and programs, etc. to the residential market. I think you need to look at other sources as well, so I will leave it at that. Thank you.

MR. TRENSCHEL: Yes, sir.

MR. BROOMHEAD: Cal Broomhead, City and

County of San Francisco. I just had a couple of questions, you said you are going to target buildings, and these are residential buildings, how are you going to go about doing that? Is that a Kwh per meter, or what was the thinking of about how you target?

MR. JACOBS: The intention was to target high users, so, no.

MR. BROOMHEAD: The last comment was, you have a lot of people who are not wired, who are not using the internet, and they often are people who have high electric bills and are having a difficult time with it because they have old equipment, etc.

One other question when you mentioned the financing, is this thinking connected at all on bill financing concepts?

MR. JACOBS: I think that is one of the issues we want to explore, yes.

MR. TRENSCHEL: Yes, sir.

MR. CONLON: Tom Conlon, Energy Check Up, I want to chime off the comments from Owens

Corning and mention that mass information is delivered through many other means besides the web, and if we are going to be pursuing information to all homeowners initiative, then we should be sure to coordinate with the state-wide marketing and outreach campaign and use some of the direct mass communications and television, radio, direct mail, and other techniques that are presumably more likely and perhaps more cost effective in terms of motivating consumers to action. Thank you.

MR. TRENSCHEL: Is there anyone on the phone that has a comment to offer? I apologize for ignoring the phone people for awhile here. Hearing none, any other comments on this intervention in the room?

Okay, thank you.

MR. JACOBS: Let's move on to the next one.

MR. TRENSCHEL: Right.

MR. JACOBS: Okay, our next one is Residential Time-of-sale Energy Ratings. The intention here is to move this towards a mandatory process. The trigger event is time-of-sale. In terms of what we have in mind, we would like to come up with a way of getting energy ratings done on buildings that does not impact the escrow process.

We have had numerous discussions with folks that made it plain and it is plain to us as well that trying to structure this intervention so it occurs outside the escrow process is desirable, so the idea here is to have the energy rating done prior to listing the building. The types of things that would come out would be list of cost effective improvements, insufficient detail to allow a potential homeowner to apply for an energy improvement mortgage.

Whatever information is developed from this rating would be disclosed to home buyers and appraisers as part of the normal sales process. The information, since it is done prior to listing, would also be available for marketing purposes so folks know what they are getting when they are shopping.

The information that would be disclosed during the process would include energy efficiency program referrals to help people improve the property once they take possession, energy improving mortgages, opportunities for additional financing, HUD Title 1 loans, came up as an opportunity that is under utilized. These types of things would be disclosed.

Our recommendations are certainly to urge the Commission to move forward on the HERS proceeding. We are interested in perusing a concept in terms of establishing a portfolio standard for energy improving mortgages and to make those more widely available, have some continuing ed requirements on the realtors, lenders, and appraisers so that they have a better understanding of energy improving mortgages and how all this works, get past some of the information barriers present there.

Then perhaps have some incentives, at least initially buy down incremental costs or ratings, interest rate breaks, and incentives to lenders to make those energy improving mortgages flow a little more freely through the marketplace leading up to potential mandatory strategy.

With that, we will take comments.

MR. JACOBS: Stan.

MR. WIEG: I am Stan Wieg with the California Association of Realtors. We have not had good experiences with point of sale mandates.

Our folks frankly are inclined to oppose them out of hand unless you have demonstrated some track record that they do work well.

We supported the original CHEERS program, and to the best of my knowledge, that has not demonstrated, at least none of my people know what it is anymore. It has not demonstrated great success in our marketplace.

I appreciate the announced intent to avoid clobbering up escrows with these rating proposals and these retrofit proposals. I have to tell you that if you put it further upstream in the listing process as opposed to the escrow process, you have really done nothing but move the blockage early up in the stream. We are still going to run into it as we come floating down that stream of the transaction.

I would suggest to you that a point of sale mandate is a bad idea for several reasons. It doesn't get you good market penetration, it doesn't target effectively the housing stocks that are most in need of the retrofit. It hasn't been demonstrated at least to be cost effective to force people to od something under a time pressure that they might have been able to do and finance more carefully at some other period indeed.

I would suggest if you have to force people to do it, then you have pretty well already admitted to yourselves that the program isn't attractive enough in its cost effectiveness to get people to do it.

Frankly, we are deeply concerned about the level of service provider that is out there in order to make this program run. I don't know how many HERS certified inspectors there are. I do know that there is a marginal ability to get adequate home inspectors to a site, and if we change what the home inspectors have to do and make it more expensive or more difficult to become a home inspector, you will dry up our supply of home inspectors, and you will stretch our transactions out dramatically.

Similarly with appraisers, if you make it more difficult to be an appraiser or if you make it more expensive or more difficult to generate the appraisal report by adding another component to it beyond what they already do on pricing for energy improvements, you will stretch out and make more expensive that appraisal process. I question even whether you have the

legal ability to do in their portfolios. I think
you may collide with some federal preemption
issues there that if you think my guys get mad

about telling them what to do, wait until you tell the lenders what they have to do in their portfolios.

Honestly, I would suggest what you need to do as a regulatory entity if we are to achieve good targeted effective, especially cost effective, changes in the existing housing stock, is we have to go out to that stock, not when it changes hands, but when people are in it, when people are invested in it, when people see that the changes that we are proposing to them are cost effective and make sense to them while they live there.

It won't work to try and force them to do it when they are downsizing their house, all you've done is really take more away from their equity and change the calculation of how big a replacement house they can buy. It won't do it for the buyer coming in. All you've done is pushed some increment of the buyers out of the market.

I have to tell you, by the way, we have

a housing affordable crisis in California. We have about 18 percent of our families in California, 18 percent of our households can afford to purchase the medium priced home where they live. Only 18 percent. I don't know how much the energy retrofits will change that equation, but if you are the person who has to crack that nut of putting several thousand bucks worth of installation or the rolling shutters that this gentleman makes, or the different kinds of furnace in a house that you can barely afford now, you will have to go somewhere else.

For some portion of our folks, again, I don't know how many that is, but for some portion of our folks, it means they won't buy that house. We think that is a bad thing. We think it is better to get them in there, better to help them finance it through their utility bill for example, the on-bill financing that was mentioned, or something like that.

Really honestly, this fixation with point-of-sale as the time to do it, is a misplaced understanding of how that transaction works. I hate to have a tantrum for you, but my members feel very strongly about this, and we have a great deal of experience with things that haven't worked when we have tried to force them on to the sale.

MR. TRENSCHEL: Yes.

MR. BLUM: I don't want to talk on this high level what the meeting is, I am more comfortable on the practical side. We know we have all the houses where more likely was wood cover, right? Then we retrofit and made the composition type, etc. etc. Do you know that on these houses there is no specification what they are, where they are supposed to be, that these houses mostly turned into hotter homes than they were before with the insulating work.

Now you go and basically have to tell everybody you need a new roof or additional insulation. I only want to underline a little bit, you know, there are problems in this whole field.

MR. RAYMER: Bob Raymer with CBIA, is there somebody else?

MR. TRENSCHEL: No, go ahead, Bob, and then we will --

MR. RAYMER: Looking at the history along with subject, time-of-sale and retrofit and all that, there is a few precedents, and some have worked well and some haven't. There is a requirement for smoke detection at time-of-sale, a very limited requirement.

There is of course other provisions in terms of water conservation that trigger during certain types of selling activities at the local level.

When I was participating in the workshops on this, it occurred to me that the housing boom that occurred after World War II and to a much lesser degree after the Korean War put several million homes onto the market that are still out there. These homes haven't been destroyed, they are still out there, but they were also built very quickly, and did not have energy efficiency probably as a single consideration.

These are also homes that probably aren't selling every four to five years as you may see homes that have been built in the last two decades. Those are quite often homes that do in fact have numerous resales. If you are going to -- hopefully you are not under the impression that a time-of-sale mandate should be a lead way to address this issue.

I suspect that you should probably

attempt perhaps to the utilities region wide energy analysis so that you effectively have a utility looking at effectively several square blocks. All of these homes were probably built in the same general time period.

When we did our fire fatality study back in the early '90's, this became readily apparent that huge chunks of land as they were developed in California all had similar designs and features, and if the utility was too or the state was to try and address energy audits on sort of a micro-regional level, you may find that you get a lot of collective information much quicker and get that information to the homebuyers as opposed to effectively hoping to get the market, you may end up at time-of-sale impacting the same home five to six times over a two decade period and not touching any of the others over the same period of time.

It is not to say that you can't use time-of-sale for educational or for other -- I am just saying it needs to be part of the equation, but certainly there are much more efficient ways to get the same job done than at time-of-sale. That is about all I've got on that.

MR. TRENSCHEL: Yes, sir.

MR. HAMILTON: Tom Hamilton with CHEERS. We are a HERS provider approved by the California

Energy Commission. By the end of this year, we will have about 500 certified raters statewide.

I am sort of going through the recommendations. As far as the HERS proceeding, one of the items that we've done when we have created our existing housing rating tool, is that we've now formed a partnership with Energy Pro where they have integrated our rate tool into Energy Pro.

The point there being, I think better work has to be done on the understanding of the processes that are involved, what value is added by incorporating some of these items.

I'll support many of CARS comments in that when the realtor is driving the transaction for somebody to buy a home, there is a half a dozen to a dozen different organizations involved in that transactions, and it gets very complicated.

One of the items that was listed in Heschong Mahone Group study back in February, it didn't evaluate home refinancing where there is dramatically less number of entities involved in the process. You basically have the lender who is insuring that the consumer is refinancing and is filling out all of the documentation as appropriate.

A couple of other items is that the buyer selects the inspector, so trying to have a seller hire a home inspector prior to them listing it and then have that information contained in the MLS where many cases, the MLS' don't even talk to each other probably isn't appropriate.

Certainly an effective way to looking at it is when somebody does a refinance as opposed to the time of sale, certainly an informational component is already there from legislation was passed a couple of years ago.

I think having the ability to work with one industry that is dramatically involved with that particular home because a lender doesn't make their money from making the loan, it is from servicing the loan. There is a big difference versus a realtor that makes their money on selling the home or us doing a rating, is for that one particular transaction.

The appraisal issue was brought up.

Many people use right now is all the artificial
intelligence for real estate, for residential.
For appraisers, they are valuing the home on a

value basis for residential. Energy efficiency may not come up that quickly.

The appraisal on income approach is used for rental properties where it is a bigger issue. I think almost segregating, doing a better market segmentation if you will be a particular industry would certainly help.

As far as the HERS proceedings, we are close. We have the software, it is integrated into Energy Pro which has 2,000 licensees. We are going to have 500 raters by the end of this year. Certainly the marketing and communication outreach is an issue. I would not advocate existing statewide marketing outreach campaigns. I think they have to be a little more targeted and focused. So, those are my comments. Thank you.

CHAIRPERSON PFANNENSTIEL: May I just jump in with a question to the gentleman from the realtors. The discussion, a very interesting point that you made, and they seem to be going to the issue of having to make all of the improvements prior to the sale, having to make any

improvements in energy efficiency that were
identified in the audit prior to the sale. How do
you feel if prior to the sale, there was an audit

with the information about potential measures then provided to the new home buyers, would that be something that you object to?

MR. WIEG: If you are talking about mandating the audit in the report prior to the sale rather than the accomplishment of some level of those recommended retrofits prior to the sale, that certainly has less financial impact, although it does certainly have a delay impact.

I don't know what the audits cost, but even if they were free, I just heard that there is 500 HERS inspectors in the state. We have 650,000 resale transactions every year, and I don't know. They seem to keep selling more and more of them.

There are another couple of hundred thousand new buildings, but all of those new buildings are going to be resales soon, and I frankly question the ability to get those audit done in a timely fashion without colliding with other kinds of transaction considerations.

I would suggest that you are probably better off to target the houses that you want to have the audits and send the auditors there and have them go to the high use old like Bob suggested, the post-war or post-Korean War neighborhoods, mandate that those folks get the inspection, subsidize them to get them because often those are your older and more affordable housing stocks as well.

People are struggling to be in a house, that is where they are going to be struggling because those older housing stocks are the cheaper ones. Get in there and help those people figure out what their benefit would be, and then those I suggest are probably your market where it makes more fiscal sense to somebody who owns a house to either consider refinancing their mortgage in order to include that or to consider a subsidized program to purchase the -- and especially to purchase it on a stretched out basis, so they don't have to crack that nut in escrow to purchase that improvement.

That makes a lot more sense from a standpoint of market penetration. It allows you to use a program that as broad as your resources are, but not be driven in your inspection core and then you are burdened by the vicissitudes of the market, but rather by how much of a staff is out there available, how many inspectors you have, and as you build more inspectors, you can inspect more buildings. As you find more areas that are in need, you can go to that targeted area.

It seems to me that it is a red herring to look at the transfer because it blinds you by fixing your mechanism there, it blinds you to the strategic consideration (indiscernible), and I would suggest that one reason these kinds of mandates haven't worked in the past is that there is so much pressure on somebody to get that done that you tend to get certifications done with a pencil rather than a saw. You tend to get things done with a what do I have to do to get out of here and let's get done approach, rather than how do I make this efficient because it is going to save me money on my mortgage for the next ten years.

CHAIRPERSON PFANNENSTIEL: You make some really valid points, and I think anybody that still remembers their last home purchase, doesn't want to add any complexity to that process. Many of us are still kind of reeling from it.

I guess what I am trying to think about,

and your points about looking at the existing
homeowners and the existing homes and trying to
target them, I don't have any problem with that,

but I would like to get back to the questions about a point-of-sale.

Here I am really trying to take it from a practical standpoint of saying that a person moving into a new home may well want to know, want to have the information, maybe before consummating that sale about what you would expect in energy usage and perhaps in possible improvements.

So, I am saying that it may be a real benefit to the transaction because a new buyer would have information and could be that because the new buyer is arranging their mortgage may be able to add to that mortgage.

I am only asking apart of the whole picture right now, but if there were -- and I understand this is a really enormous assumption, but as a trained economist, I think I can assume away the facts that don't work, but if you assume that there are enough auditors, certified HERS people who can go out and do this so the timing isn't extended beyond what it already is, but it seems like getting that information at that time might be a benefit to both parties in the transaction.

So, a realtor is asking for whether if

the only issue was having enough auditors out there, if we could overcome that, then would you be okay with something happening at point-of-sale?

MR. WIEG: Thanks, I should have clarified that. It is not the only issue. Having a point-of-sale, we suggest is just conceptually flawed. It is not the individual cost, or it is not the individual delay, but it is conceptually flawed because it doesn't direct you to where you want to go.

Given your assumptions about whether or not it was available, there is not question that people do shop for lots of different reasons and that the due diligence of the buyer does going into a property, particularly a commercial property, but in a residential property, there is no question that any kind of special feature of the house is often used to market that house, whether it has extra insulation, whether it has high efficiency appliances, whether it has a pool, all kinds of things factor in.

There is also no question that my

members will use that and indeed are legally obligated to disclose any material fact about the property, whether it is on the bright side or on the dark side. If it leaks energy like a sieve and the draft blows all of your papers off the table every winter, we have got to disclose that too. It is not just that we would disclose the plus side that this is a tight efficient house, we also have to disclose the downside.

It works both ways for our people, so they are not offended to getting that information there, and we are certainly not opposed to the idea of getting as good a picture of the property as we can get.

The issue for us has been a practical one, and as I say, historically our experience has not been good with adding more features into that transaction.

CHAIRPERSON PFANNENSTIEL: Thank you.

COMMISSIONER ROSENFELD: I have a question for you, Stan. I should know this, but the last time I bought a house in California it was before the energy crisis, so what are the present -- what is the present situation with disclosure. That is if you have two houses on the same block and one uses twice as much energy as average and the other uses half as much energy as average, what is the new buyer informed about right now?

MR. WIEG: I don't think the new buyer gets that kind of information because I don't think there is really an adequate way to know that. If, though, there was, there would be a material fact that we would be required to disclose, my members would be required to disclose in the transaction, particularly if it is a defect, if it falls below par.

You have the dual incentives of liability for not disclosing something that is a defect or the market emollient, the plus side, if it is a more efficient cost saving house, then you have an incentive to disclose it.

Your question strikes right to the heart of the issue. I am pleased to see that we have somebody here that can testify that houses don't all turn over even though they are older houses, presumably yours is more energy efficient than others.

The issue is do we know and do we have a reliable kind of repeatable way to know. Our appraisers don't know how to od that. They would tell us -- if the roof leaks, the appraiser knows how to tell you that. If the roof leaks energy, I don't think the appraiser can tell you that.

I can tell you that the home inspectors can't tell you that, and they will fight if you try and tell them that they've got to create a new kind of certification within their industry in order to do it.

My experience has been that they have been wary of mandates without -- on their practice without some ability to make sure they can all do it.

COMMISSIONER ROSENFELD: I thank you. I think Commissioner Pfannenstiel and I certainly appreciate your point that we can't mandate disclosure. There's a lot of information which we don't have. On the other hand, I think in the long run, time-of-sale still seems like an important goal in which you wish to meet, if we are not ready for it. I would like to get into the record my feeling that is is up to us to discuss in some detail how we do some sort of benchmarking of existing housing and eventually strive to the idea that if we can find those people who are unfortunate enough to have houses where 50 percent of hot or cold air leaks out of the ducts and doesn't do any good or whatever, that they be targeted ahead of time and eventually they recognize that this is going to be a deficit on the value of their house when it does get sold. I agree with your technical points.

MR. TRENSCHEL: Mr. Conlon has been patiently waiting there, thank you.

MR. CONLON: Thank you. No, it's stimulating conversation, and I am glad to have had it before I get a chance to chime here. Tom Conlon with Energy Check Up.

COMMISSIONER ROSENFELD: Could you talk a little closer to the mike.

MR. CONLON: Sure. Obviously, I think it is premature to discuss mandatory measures at the time of sale until we can demonstrate to the real estate community, to the home inspection community, and to consumers, that it is not going to slow down the process and make it more difficult for everyone.

That for me is the take away point from today's discussion. Energy Check Up, the organization that I am associated with, has trained over 340 home inspectors. These are the same people that provide traditional time-of-sale condition of inspection services to the real estate industry in California and performed over 27,000 home energy inspections piggy-backed with those traditional inspections.

We have done so without significantly impacting and slowing down the process and maintaining high levels of realtor and consumer and home inspector satisfaction.

The challenge is to, as Bruce Ceniceros put it, lay out a strategy, a phasing plan for demonstrating that this process can in fact work. Once that phase plan is laid out, only then, do I think it is appropriate to pose any kind of mandatory regulation on this market event.

Just as you would not propose an increase in the rigor of Title 24 before developing appropriate support within the community for the kinds within the homebuilders community for the kinds of improvements that are proposed in the Title 24 change, you simple can't propose to regulate this new group of market actors without building similar consensus.

I would argue that the focus of this

next phase, this draft report, should be to work on articulating those phased implementation steps, how are we going to demonstrate that this process works. In the draft report, for example, there is mention of both incentives and mandatory measures. I believe the intent of the draft report is to say that the incentives would occur in a transition period prior to mandatory measures being passed.

I think that needs to be very explicit in the draft report and perhaps spend more time on what those kinds of programs would look like. Thank you.

MR. TRENSCHEL: We're running a little long, but this is one of the key interventions here that we are presenting, so --

MR. BLOMBERG: Jerry Blomberg. I really didn't come to discuss the residential part, but a long time ago, I had recommended that the utility bills of the property became part of the title, and so any buyer would be aware of what the utilities cost. That would force people to say I'm only going to live here a couple of years, but hell, but if I change the price of the property $20,000 if I made the improvements now. So, it seems like it would take all of this stuff away, he can get his shade put on there, and everybody would have something to market there because the utility bills were available to the buyer.

MR. BLUM: When you lose (indiscernible), but when on your credit card, there is something where they say, okay, I had it happen to one of my employees, he had 20, 30, every day this amount of fuel. Then they called him up and said, your fuel again, what day, you only fuel once a week. They figured out very quickly that there was something wrong.

All of my customers, hundreds of them have drops in their energy bill from $300 to $400 to $100, and I checked with them and they said PG & E never asked about it. How come? They should be alerted and say what is going on, did somebody die or what happened.

MR. TRENSCHEL: Bruce.

MR. CENICEROS: I had the opportunity to --

MR. GUSTAFSON: Can I make a telephone comment, please?

MR. TRENSCHEL: Yes. Hold on for just one second, let's hear Bruce, and then we will make sure we get time for you, Mr. Gustafson.

MR. CENICEROS: Bruce Ceniceros for SMUD. My wife and I have been house hunting for the last five months, and I had an opportunity to really experience this issue first hand and realize there is a dire need for some form of information for home shoppers to compare one home versus another in terms of its energy consumption.

The educated home buyer looks at the total cost of ownership, that is the principle and interest in a mortgage, it is all the tax considerations, it is mella roos, homeowner association dues, they find this information right now, the educated home buyers, and they add all that up to see what this house will cost them versus this house.

Now there is nothing for us to find in terms of energy costs. I did ask several of the sellers for copies of their utility bills, and in some cases they were willing to provide that, and in some cases they weren't.

I found that the information that I did gather show differences in monthly energy costs over $100 from one house versus another depending largely on age.

A hundred a month in current interest

rates, that is the same as $25,000 difference in the sales price in terms of monthly costs of home ownership. It is very important information. I think that most home shoppers don't even think to ask for it because they don't realize that impact because for one, the information is not available.

We need to get to a point some time in the future maybe by incremental steps where this information is readily attainable by the home shoppers and then market forces will start working and people will want to fix up their homes and add insulation if they don't have it and other measures before they even put their home on the market so they can be competitive.

I just want to say -- I mean we can't get it to mandatory requirement for something like a HERS rating or an energy inspection component by the home inspectors, that we need to look at plotting a plat to get there at some point in the future and maybe an interim step is to simply continue to do what due process is doing, whether (indiscernible) programs for utilities, educating home inspectors, getting them by demand from the buyers to add that component during that inspection, that allows a couple of hours at most to what they do on the site already during escrow process.

They may also apply to other issues if

you want to get a more involved energy study which we did with one home that I almost bought and found that despite seeing low energy bills and the copies that we got from the seller, they weren't running the air conditioner all summer because she was from Mississippi and it was okay to be 80 to 85 degrees in the house. It wasn't humid, she was just fine. So, it turned out that was the most expensive house energy wise of all the ones we looked at, and we didn't know it until we had this energy evaluation done. You need someone knowledgeable when you are looking at these homes to uncover those kinds of things.

MR. TRENSCHEL: Let's go to the person on the phone, and could you say who you are again, please?

MR. GUSTAFSON: This is Dale Gustafson, let me say that the last time I attended a workshop, I was Executive Director of the Air Conditioning Contractors of America, and I am no longer representing that organization. I want to say that at the outset in case somebody mistakes the comments.

Speaking to the notion of suppliers of services, that is the suspicion that we don't have enough raters available to get the job done. I'd like to suggest that there -- and in some ways building on the comment by the SMUD shopper, there are thousands and thousands of air conditioning contractors in the State of California who can under the right circumstances be called upon to check on the (inaudible) and although that may not constitute a comprehensive home and energy inspection, it certainly covers a lot of what needs to be done and what could be done at the time of sale.

There are lots of arms and legs out there available to be recruited. One of the issues and barriers that face that industry in addition to others where one has simply been that there is not sufficient demand and when you create sufficient demand that is money to get the job done, the cream will rise and get that job done cost effectively. That may be one of those interim steps that was mentioned is to focus on the air conditioning systems and the fact that we have tens of thousands possibly of bodies available to be trained and do that work.

MR. TRENSCHEL: Thank you. Mike Hodgson.

MR. HODGSON: Mike Hodgson, CBIA. Just a quick comment, and I promise I wouldn't come back to this, but I am going to.

MR. TRENSCHEL: I'm sorry, that's all the time we have.

MR. HODGSON: We know rating systems work. We have it in the new construction industry. We know that we market differentiate ourselves being better than others because we are more energy efficient.

UNIDENTIFIED VOICE: And we think it is swell.

MR. HODGSON: I won't say that, I'll just say that the market recognizes it, and we know energy efficient homes sell better than non-energy efficient homes that are new. So, the market has responded.

What we don't have on the existing home side is a way to rate those homes. So, if you allow us, and it is not our industry, we are not in the retrofit side, but in the existing market, if you could get your HERS infrastructure in place and get a scale that is consistent, then those of us who want to shop for homes and compare energy bills can do that.

Then we would also have a tool when we are shopping for those homes to know what is cost effective to install in those homes. I had to be repetitive, but I am. That is really important part of the market. You can do all of these other mandatory things, but the market is interested in energy efficiency. You are not letting it play because it doesn't have a system of what you are the expert in setting up. So, you need to set it up.

COMMISSIONER ROSENFELD: I want to encourage you for being -- pat you on the back for being repetitive, I think this is a very important issue.

MR. RAYMER: What are the legal restrictions for being able to get that utility information right now, is it just a point of PUC regulation? I know in the development of energy standards in the past, there's been numerous occasions where we try to get our hands on large billing data base information, and at times, that can be very difficult to get a handle on, but is there something -- when I get my SMUD bill, I can see what I spent a year earlier if I was in that house.

Is there something like that, that can be implemented on the utility basis for whoever is in the house?

CHAIRPERSON PFANNENSTIEL: I believe that the current owners, the current utility customers, are the ones who decide whether that information can be made available to others.

COMMISSIONER ROSENFELD: Bob, I am 100 percent inexpert at this, but just to push it a little further, where I think Commissioner Pfannenstiel is exactly right is that there is no doubt that the information about your utility bill belongs to the customer. I can see that it would be fairly easy within the real estate industry to say you must disclose last year's utility bills, and if you don't, it is going to be very suspicious when you sell your house.

MR. RAYMER: The reason why I bring that up is there is already two areas, structural integrity of the home and fire safety, where this occurs. The insurance company is actually coming out because the insurance companies are prompting it, but for the worst seismic region in this state, there is already a lot of information floating back and forth over what -- how is the home fastened to the slab, if it is on a slab, etc. etc. in terms of seismic protection.

The fire protection within the last few years, particularly homes in the (indiscernible) and the wildlife interface, you are seeing a disclosure of information relative to defensible space, adjacent structures to the house, things that are attached to the house like decks, and stairs, and other things, and the material the roof is made out of, its fire rating, things like that, that the insurance companies want to know more about, and I suspect they are making it very -- they are using this information to encourage home buyers to make certain changes or home sellers to do that. It would be very useful to have that for energy purposes.

MR. BLUM: Ms. Pfannenstiel, it burns on my fingers, you know, is the prospect I have that just maybe the most five minutes to explain what is going on with energy, what I found out from my level?

CHAIRPERSON PFANNENSTIEL: I think that

it is really a question of given the subject
matter today, whether your discussion that is
something that feeds into where we are trying to

get today. I don't know what you would be telling us, so I can't make that judgement. Dale.

MR. TRENSCHEL: I don't know -- are there any other comments, someone that has been waiting patiently on the phone or otherwise, to make on this subject. We still have more comments.

I think for the time being, if we have time later in the day, it would be nice to be able to give you those five minutes, but we will have to see how the calendar goes, I am already doing a kind of mediocre job at keeping us on schedule, so --

MR. BLUM: It is so simple, and you all will be surprised.

MR. TRENSCHEL: Why don't we take another couple of comments, and then we will break for lunch, and then we will see if we can start on the next intervention as we return from lunch.

Bruce Ceniceros.

MR. CENICEROS: SMUD, and just to quickly respond to Bob Raymer question there about disclosure of energy costs. Yes, right now we can't do that as utilities except in a desegregated form, we can't tie our user to the data. Even if we were to pass a law that would require disclosure of energy costs for the history of that home before it was sold, it might be a good thing. It is better than what we have now, but it doesn't need to be the whole story because individual use patterns such as the example I mentioned before, there is so widely sometimes a home may not be occupied half as much in one case as in another, and personal preferences and things like that.

So, we really need some kind of assessment, objective assessment of the building itself and how it performs under typical conditions and a way to standardize. Whether that is a home inspection just doing a check list kind of approach or HERS rating or other performance issues or something even more involved than that.

MR. TRENSCHEL: All right, thank you. Nehemiah, did you have something?

MR. STONE: Nehemiah Stone. I'm going to make this really short. This is one good example of where there is a parallel that could be used with multi-family that creates a different set of issue and by just looking at one multi-family alternative or low income multi-family alternative rather than looking how each of these can apply, you missed something.

The issues of what information could be available or very different with multi-family, and it would be almost impossible even if you could overcome it with a single family that somebody has to disclose their bills, so a multi-family property cannot disclose all the bills, the past bills from the tenants that they've had. Yet, having some sort of analysis of the opportunities in a building at the time-of-sale may net you a much more set of cost effective energy efficiency improvements with a multi-family building than with a single family building.

MR. TRENSCHEL: All right, thank you.

COMMISSIONER ROSENFELD: Excuse me, Nehemiah, so embellish on that a little bit. What should we be considering, I think we are discussing at time-of-sale for multi-tenants.

MR. STONE: One of the things to recognize with multi-family is that it is many ways a lot more like a commercial building, and so somebody goes through an analysis or some sort of analysis of how much money is this building going to make me. If I invest this many dollars to buy the building, what have I got.

If at that point, there could be a requirement that they have an energy audit, they have an analysis of how this building performs in terms of energy compared to a baseline and that identifies as Tom's analysis will what the most cost effective options are, then the buyer of that building whether this is affordable or market rate, has the option of -- has a better set of numbers to figure out well, can I buy this building and can I -- what am I going to get for investing in energy efficiency. Within that market, there is a lot of mechanisms for getting a return on your investment when you invest in energy efficiency.

There is not a lot of understanding of what those options are, and so, as Mike said, this is a good role for the Commission to fill that market need.

COMMISSIONER ROSENFELD: Actually I think it was Bob Raymer who said we should be looking at targeted -- there are targets like there are old homes and --

MR. WIEG: If you are looking for mass quantity quickly, you might want to look under regional.

COMMISSIONER ROSENFELD: I think Nehemiah is saying that one of the interesting targets is multi-family.

MR. STONE: Yes.

MR. TRENSCHEL: Thank you.

MR. BROOMHEAD: Cal Broomhead, City and County of San Francisco. I very much appreciated Mr. Wieg's comments.

COMMISSIONER ROSENFELD: Closer to the mike Cal.

MR. BROOMHEAD: I very much appreciate Mr. Wieg's comments. I met a couple of times at the San Francisco Association of Realtors and heard many of the same concerns, and we are looking at other mandatory opportunities to offload some of the activity on to our current residential energy conservation ordinances that we have in San Francisco.

I can say that I am under a lot of pressure from the mayor's office and from the Board of Supervisors to do something very dramatic in the City because the leadership takes the issues of global warming and electrical liability and local air quality and a number of other things very serious issues, and I think rising to the level of earthquake safety and fire safety and that sort of thing. It is a new realization has come to our elected leaders in the last half dozen years or so.

We will be moving forward with some kind of home energy rating at time-of-sale and a number of other measures being added to our existing RECO. We want to do this in an intelligent way, we want to make sure it is going to work with the local infrastructure, and we are very concerned about those issues.

Another issue that you might be able to help me with is I am concerned about if we get ahead of the state and we are doing things in San Francisco will I then not be allowed to use energy efficiency funds to help subsidize some of the items that we are trying to get installed in San Francisco as Mr. Wieg suggested that some of these things may take subsidy, particularly for low income and medium income folks who need that kind of support.

MR. PENNINGTON: I might just respond real quickly. I think you are talking about incentives for measures, and I don't think we are talking about mandates for measures today. So, I think we are talking about the possibility of at some point having a requirement for a rating.

MR. BROOMHEAD: Well, even for a rating, then. If a rating is mandated, can we use funds to support the development and dissemination of a rating system locally, even if the state doesn't do it?

MR. PENNINGTON: I don't know, that's a very hypothetical question I think. It really depends on your city policy. You know, I don't think it depends on a state mandate necessarily. There are a lot of considerations to your question.

MR. BROOMHEAD: Great.

MR. TRENSCHEL: Okay, let's take one more comment, and then we will take a break here and reconvene.

MR. BLAKE: I am Randy Blake from Blake Air Conditioning and the Institute of Heating and Air Conditioning Industries. I take a little exception to the talk that we've had about having either HERS raters going out and doing energy audits and doing things for to figure the energy usage in each home or each commercial building.

The existing group what would be raters or whatever, I don't think they have enough sophistication. They would have to have a lot of additional training in order for the group that does the ratings that go out to the homes right now, for them to actually in order to do an actual energy audit and think in terms of what an engineer thinks in.

They could be information gatherers and take it back and put it into a software program, that might be all right, but to have them do it on an individual basis, I just don't see this as being a viable source.

MR. TRENSCHEL: All right. Just a reminder to those that are on the phone. It is possible for you to hang up and dial again, we are going to break for lunch here, but we need to keep the line open at this end, though. You can go on your merry way and just dial back in again, and that would be fine.

Why don't we take -- how about 1:05, and then we will start again. Thank you.

(Whereupon, at 12:05 p.m., the workshop was adjourned, to reconvene at 1:05 p.m. this same day.)

AFTERNOON SESSION

1:10 p.m.

MR. TRENSCHEL: We have quite a few things this afternoon as well to cover. So, thank you for being prompt and coming back here. I think what we want to do is start this afternoon then with the tune-ups and O & M item followed by whole building diagnostics. I think maybe midday I might have to take a poll here to see what the interest is for some of the other subjects that are on the agenda if we get too pinched on the times.

Anyway, with that said, I will just turn it back over to Pete, and we will talk about this next intervention possibility.

MR. JACOBS: The next item on our list is residential equipment tune-ups and O & M. This is an intervention that we are considering potentially might evolve into a mandatory intervention, something that would happen at the time of equipment replacement, potentially the time-of-sale and also during maintenance.

The general description is to build capability in the marketplace. We need to engage the community colleges and Voc/tech schools and get technicians trained in how to do quality tune-ups and O & M leading to certification. We think NATE would be a great organization to provide that certification.

On the demand side, educate consumers about what to really look for in terms of HVAC diagnostics and tune-ups and really helping them to understand that there is a difference and to help them shop wisely for those services.

It is likely to require some incentives as this initiative moves forward to ramp it up. Along with consumer education also some advertising support for the whole quality installations and quality maintenance practices.

Our specific recommendations are to move towards a mandatory diagnostic based equipment tune-ups and installation practices at time-of-sale and equipment replacement and perhaps fund some of those efforts through reimbursable surcharge at the wholesale level where once you provide documentation that the equipment has been installed properly, you can have a portion of that charge refunded at the wholesale level.

With that, let's open it up to comments.

Anybody care about --

MR. TRENSCHEL: Anyone on the phone that would offer a comment. No? This is the kind of thing that a person like me just for scheduling just loves to see. No, I'm kidding.

MR. JACOBS: No, we definitely love comments.

MR. TRENSCHEL: No comments on this intervention then?

COMMISSIONER ROSENFELD: Except it sounds very wonderful.

CHAIRPERSON PFANNENSTIEL: Let's move on.

MR. TRENSCHEL: All right.

MR. JACOBS: Okay. The next one is whole building diagnostic testing, and we see this as a voluntary intervention. It is basically information in marketing and some other support to move this whole concept of holistic building treatment into greater prominence in the market place.

We talked a little bit about this

earlier. This is a particular initiative that fills a gap in the current program offerings.

A trigger events would be remodeling,

equipment replacement, or potentially a particular building problem that could trigger on this type of service.

The general description is using the house as a system approach as opposed to a piece meal approach to efficiency upgrades, using instrumentation based diagnostic evaluations and testing of the building to identify flaws, considering both the health and comfort issues along with energy issues as these are highly valued by consumers. Implementing fixes and verifying performance, all occurring in more or less a seemless process led by certified and trained contractors.

Our specific recommendations are to have a dialogue with the insurance industry about the potential benefits of this level of intervention in the building and how that might effect insurability and insurance liability. Also dialogue with CPUC in terms of how to value some of the non-energy benefits and the cost effectiveness calculations and also dialogue with the CPUC on how some of the instrumentation and measurement based approaches that are used with this type of process might be useful within the measurement verification process.

With that, I will open up to comment.

CHAIRPERSON PFANNENSTIEL: I have a question. Where do you get the contractors, who will they be?

MR. JACOBS: At this point, it is contractors that see this as an opportunity and sign up for training.

CHAIRPERSON PFANNENSTIEL: Trained where?

MR. JACOBS: Trained by someone that is certified to provide that training. There is an organization in the state currently that trains and certifies contractors under the whole building approach.

MR. STERN: Pete, I could respond to that if that helps. In terms of -- just a quick introduction and I will keep this brief. I'm Eric Stern with BKI (indiscernible) which is the California Building Performance Contractors Association.

CHAIRPERSON PFANNENSTIEL: Can you speak

into the microphone, please.

MR. STERN: Can you hear me now?

CHAIRPERSON PFANNENSTIEL: Yes.

MR. STERN: The California Building Performance Contractors Association. We do exactly this, we are the only program in California that kind of takes in contractors, trains them, do this whole house performance diagnostic assessment, and then actually perform the remediations.

It started, and there are about 100 contractors out there doing that, just maybe a possible suggestion or an add on or another recommendation would be exactly this, is to continue training and education of contractors in terms of there are thousands and thousands and thousands of contractors whether insulation, general air conditioning, that are capable of doing this performance testing and actually installing the measures themselves and then testing out and documenting the actual performance of the home.

What happens is because this is a voluntary program, I think which I like, it lends itself much like the new homes for Energy Star where builders are able to have their homes tested and certified and then actually market the difference or the differentiation within their marketplace based on competitors and then have kind of a selling point.

Contractors can do the same thing, which means if they are able to do whole house diagnosis, and then actual tests and solve multiple things with one visit, it is a point of differentiation or marketing tool for them to compete against other people.

When they get a call from someone complaining about a comfort problem, they actually stand out or they differentiate when they make their bid or they make their determination.

Anyway, just to wrap this up, if I can answer more questions, please let me know, but the point I would like to make will be under the recommendations which is including continued education and training for contractors.

CHAIRPERSON PFANNENSTIEL: I'm sorry, how many did you say currently, how many contractors are currently in the state --

MR. STERN: There are probably 100 contracting companies out there that have gone through the training. It is a fairly involved training in terms of four days of in-class building science plus two days in the field really understanding how to use all of these fairly elaborate but pretty easy to learn type tools.

There are 100 contractors out there doing this, and it is getting there. It does take some time, as you know, especially if you have been working in let's say air conditioning for your entire life, until you get a comfort level, you know, understanding, making estimates and recommendations for house ceiling and insulation type measures as well.

MS. HUSSEY: You are relatively new if I recall, a couple of years old?

MR. STERN: Yeah, oh yeah, we are funded information program under PG & E.

MR. TRENSCHEL: All right, Stanley.

MR. WIEG: How does this kind of whole house analysis, holistic analysis differ from the kinds of audits that we have been talking about in the past? I sense that we are looking at at least a different packaging of it, but is it technically different, or is it -- I don't have a sense of how big the difference is?

MR. JACOBS: Do you want to take that?

MR. STERN: Sure. The question was, how does this effort differentiate is different from just an auditor in a whole house assessment, was that your --

MR. WIEG: Sure. I mean we have the Energy Check Up and the CHEERS kind of thing, and this is obviously something different, but I don't really know what it is.

MR. STERN: I think with the HERS ratings and the Energy Check Up and some of the other programs that are out there to try to score the home and then quantify the potential energy savings through measuring the exact efficiencies of certain measures, what is the SEER or the EER of an air conditioner, what is the AFUE or the efficiency of a furnace, etc.

This approach is where the contractor actually goes in there responding to a problem or an issue from the home owner. So, it is almost more qualitative than quantitative, so the idea is look, I have a cooling problem in my upstairs bedroom, can you help me.

The contractor will go in and instead of actually just trying to put in a bigger air conditioner or a more efficient one, they are trying to figure out what is going on in that house in terms of is there enough air flow to that room, is there proper insulation, is there something else that is going on that will solve the problem by just replacing or upsizing the air conditioner.

Actually instead of just selling air conditioning services, they are selling the complete solution. I can downsize your air conditioner once I reinsulate the attic, tighten up the shell of the house, and solve other problems all at once during one remediation. Did I answer the question?

MR. WIEG: You did, but it seems to me that if the other inspector is on the ball, he is going to be trying to do that too. It seems like it would be object you want to combine?

MR. STERN: It is, but now you are having the actual person doing the work making the diagnosis, and so it is a single party they have to deal with. Using the diagnostic tools during the remediation process, so as they are actually sealing the duct work, they are testing to make sure they are actually sealing as opposed to having a third party come in, test it, write a report, then someone has to go hire a contractor, a contractor comes in, seals it, and then someone has to hire that third party to come back out, retest, and they have may missed it or -- you have the same person doing the work doing the testing. It is a tool to incorporate within the work process, if that makes sense.

MR. PENNINGTON: I might just add a little bit to what you said. There is a continuum here in terms of the level of sophistication of the evaluation of the situation that ranges probably at one end from the home inspector or somebody like a home inspector doing a visual observation of what is the status of particular measures in the house. You know, how much sealing insulation do I have, what is the -- does the air conditioner say the SEER is and trying to do a quick inspection-type action that would not be disruptive to the real estate transaction that is going on. That is sort of at one end.

At the other end is diagnostic testing which is using all of the tools that exist from a building science vantage point including fairly elaborate testing equipment perhaps to evaluate problems that have been identified in the home.

You may actually, you know, you might find in the process of doing a home inspection related to a real estate transaction, that you have a house with a serious problem, and that house in order to get fixed and be, you know marketable and being in good shape, might move up that continuum to more sophisticated capabilities to evaluate it.

There is a continuum here. By no means are we recommending that a full blown, you know, complete diagnostics be done on every house, but that service has some advantage in the general market.

MR. WIEG: It seems to me that it is more easily marketed to the consumer because that is what they really want, they really want a comfortable house, they don't want a score.

MR. PENNINGTON: For some houses that may be complete overkill to try to go to that level of sophistication. They may not have that serious of problems with their -- it is sort of house by house basis you would end up wanting that service.

On the other hand, I think the people

that are taking advantage of this service are finding it to be tremendous and other kinds of benefits, comfort benefits, health and safety benefits, that completely override the energy aspects are kind of driving customers that this program is getting.

MR. STERN: Also I understand, this is not a time sale type of initiative here. When a homeowner has an issue, they typically open the yellow pages or ask a friend and call an air conditioning contractor. It is nice when the air conditioning contractor responds, that they are able actually to analyze and assess the house as a system and the whole performance instead of just a single issue as I understand it.

MR. TRENSCHEL: All right, Mr. Hamilton.

MR. HAMILTON: This is Tom Hamilton. An analogy for this would be a termite inspector. He can find the termites, and he can also do the work, the remediation work. A rater doesn't sell or install anything, they are kind of the consumer protection approach if you will, that sort of analogy.

As far as this, one thing to think about is you mentioned about insurance is when you buy a house, you get a home warranty. Usually for a year, somebody throws it in somehow tying into like that approach that if they had some kind of energy efficiency upgrades done, that they would get a discounted rate.

The other item is licensing is that if you are a C 20, you can't install insulation or sell windows or something to that effect, so if you want to come up with a whole building diagnostic testing entity or individual that there may be a separate license for that where they can do just those items, they may be a C 20, but they could also do these energy efficiency features.

Now there is I think it is a D 58 or something like that, like a weatherization, but you may want to tighten that up too. That's it.

MR. TRENSCHEL: All right, any other comments? Yes.

MR. DAY: I should have known it was going to happen. Michael Day with Rockwood Consulting, and I had a question with regards to the blurb here about the modified cost effectiveness methodology to account for non-energy benefits.

That might bear a little bit more

explanation, and some of the points that come up
to me would be comfort, how would we go about if
that is something that you are looking at, how

would you go about quantifying comfort.

A second part would be do you tend to include things such as air quality emission standards or something like this, something that ends up producing a lesser load, either in terms of greenhouse gasses or Nox Ox and reactive organic acids that contribute to smog.

Lastly, with regard to cost effectiveness, one thing might be for example with evaporative systems that are water based, are you intending to recognize the energy costs to get the water to the point of use, which is oftentimes a hidden cost that is not recognized?

MR. JACOBS: I guess to respond to your question, and I'll make this brief to hold the mike open for other comments. When we talk about non-energy benefits, we are talking about on the consumer side and not on the environmental extranality side.

Certainly the methodological issues on how to value that are part of the dialogue, we don't have an answer for that.

COMMISSIONER ROSENFELD: Pete, I would like to ask you, in commercial buildings, we know that there are lots of health benefits of having (indiscernible) work right on outside air and so on, but right now we are discussing just residences, right?

MR. JACOBS: Correct.

COMMISSIONER ROSENFELD: This will come up again later this afternoon under commercial buildings?

MR. JACOBS: You know, this is really the only strategy. I mean part of our charge was to look at cost effectiveness and then bring in non-energy benefits where necessary, and this was really the only strategy where non-energy benefits were a big part of the cost effectiveness calculations.

Things like commissioning, which I think is what you are going after on the commercial side was such a slam dunk cost effectiveness wise, that we didn't really need to consider non-energy benefits.

COMMISSIONER ROSENFELD: Okay.

MR. TRENSCHEL: All right, yes, Dan.

MR. BURGOYNE: I guess in regards to the

non-energy benefits, what non-energy benefits are you considering here? I think there are definite benefits, you know, if you've got a diagnostic test to capture water conservation which does affect energy use to capture perhaps ventilation which is also tied in with energy, and I guess I am just curious what non-energy benefits you are referring to? I think it is good to capture more than just straight up energy information.

MR. JACOBS: At this point, we are considering comfort and health issues as part of the non-energy benefits equation.

MR. BURGOYNE: Does that include water?

MR. JACOBS: We hadn't considered that, but we will certainly take that comment into account.

MR. TRENSCHEL: Yes, Bruce.

MR. CENICEROS: Bruce Ceniceros with SMUD again. I just want to express our strong support for this particular initiative. We think this is a very important point in time and trigger to get involved in trying to improve the efficiency of the systems.

All of the things that are listed here are good things to do. I will also point out that as far as requiring mandatory AC tune-ups, refrigerator and charge and air flow and duct testing (indiscernible) homes, that also has some potential, but we also have a regulation that is taking effect on October with the new 2005 (indiscernible) standards that effect alterations when the party, the AC equipment is being replaced.

I want to make sure we leverage that new regulation for all it is worth from every angle, from the market side, the regulatory side, the enforcements, training the contractors, and get as much out of that as possible, because if whenever a part of the system is replaced, these things are done, everything but the air flow anyway, then over time, you won't need to do it at point-of-sale because the system has turn over and maybe a slower rate than the average home is sold. Eventually you will get them all that way. Maybe we not even have them do point-of-sale requirement if they do a really good job of enforcing this regulation.

From what I am hearing, chances of having anything resembling good compliance isn't very good unless we all support this from utilities and all the other ways that we need to do that.

MR. TRENSCHEL: All right, any other

comments on this. Let's move on to the next one then.

MR. JACOBS: Great. The next one is low income multifamily. The intervention what we are envisioning has both mandatory and voluntary components.

Trigger events are time-of-sale, refinance, time of lease, or time of property rehabilitation, probably rehabilitation being the most important trigger event.

Basically, this involves benchmarking, this ties in with the commercial benchmarking piece that we will talk about next. Providing a tool for multifamily property managers to benchmark and track the performance of their portfolio of houses under their control.

Using the state agencies as an information hub for information and incentives for energy efficiency improvements as they are the key focal point for most subsidized housing in obtaining subsidized housing.

Revising utility allowances to encourage investments in energy efficiency. Also focusing on rehab and preservation projects as a key opportunity to do the kinds of efficiency upgrades that can provide a lot of efficiency improvement.

Our specific recommendations are to engage with US Housing and Urban Development on their utility allowance guidelines for energy efficiency projects, require energy ratings, and apply minimum efficiency standards to projects that receive state funding, allow those energy ratings to be a qualified expense when applying for funding, simplify the rating application process to make it easier for property developers to obtain ratings, and also provide incentives to help with the financing of those minimum efficiencies during the rehab process.

With that, I will open it to comments. Nehemiah.

MR. STONE: I have a question first and then two comments. The benchmarking that you are talking about, I am assuming that you mean the kind of benchmarking that commercial Energy Star buildings are based on?

MR. JACOBS: Correct.

MR. STONE: That is what I thought.

MR. JACOBS: Yeah, utility bill
benchmarking.

MR. STONE: Given that, I'd like to

recommend that you not base it on that. Those of us in the national working group working with EPA on high rise multifamily Energy Star criteria are moving away from benchmark to a modeled approach with the local code being the basis for it. So, you would be diverging from where the industry is going on that.

The second thing that I wanted to say is that there is a strategy that would be relatively cheap and where it has been done already it has proved to be extremely effective, and you don't have to wait for any trigger. I would like to recommend that you explore the strategy and work on developing and that is creating software for multifamily property managers to be able to track energy bills of all of their properties and help them to highlight where there are problems.

Where this has been used and Mid Peninsula Housing is a really good example. They were able to save enough energy every year, they were able to find enough energy savings to pay the salary times two of the one person they had to hire to do this work. There are a whole lot of energy opportunities there, and it is a tool that would make it easy for the industry to do what they ought to do on their own without anybody coming along and bribing them or paying them (indiscernible).

MR. PENNINGTON: Question, Nehemiah. It sounds like what you described second is a form of benchmarking which is tracking energy bills and comparing like projects, energy bills over time.

MR. STONE: It is, but it is not benchmarking -- that is why I asked first what you meant by benchmarking because there is a specific meaning for benchmarking with a commercial in it, and to my way of thinking relatively stupid way of doing it because you are pretending that all uses are the same whereas this tool, the Mid Peninsula uses, for example, they are comparing their two bedrooms to their two bedrooms, and they are comparing places where you've got regional differences that are smaller than a climate zone, and so in a way, Bill, it is benchmarking, but it is not the term benchmarking the way the EPA uses it.

COMMISSIONER ROSENFELD: Bill, I don't

know whether it is a question to Nehemiah or a comment, but there has been lots of discussion of benchmarking going on, and of course EPA tends to think about its national data base, and we in California, the CEC side of the story, tends to say, well, you know, we will quote an Energy Star because that's got a good brand name, but we will make it a California data base. So, you will be comparing all of our plans at least the governor's green building initiative, executive order, have been to use California data. Does that make you feel more comfortable?

MR. STONE: Not much, and the reason being is that you will find, I believe, you will find as much difference in different multifamily buildings, in fact, more than you will find across the whole nonresidential spectrum of buildings. I know that it hard for people who have been dealing with nonresidential buildings for a long time and know how complicated they are to accept, but they are really -- as soon as you get a building where you've got an elevator in a multifamily, everything changes. Well, that is not necessarily true in nonresidential buildings.

You have a whole different set of

factors in a building with an elevator in -- excuse me, in multifamily. So, there are a lot of differences. If it was kind of amalgamated rather than using the approach that the Energy Commission uses for new construction which is here is the set of criteria that describes the typical building. Now, with that building, what do you have. It wouldn't be as affective as doing it the way the Title 24 does it.

CHAIRPERSON PFANNENSTIEL: Could you describe a little bit then the software tool that you are talking about using?

MR. STONE: I've only seen a presentation of it, I haven't seen the tool itself. The woman that developed it actually did it as a college project when she was an intern there, and she saved so much money for them, they offered her a professional salary, and she turned it down to go save the forest or something, I don't remember.

Essentially, what the tool does is every month it pulls the -- it gets the energy bills, the utility bills that the tenants see, and Mid Peninsula requires that if you are going to rent from us, you are going to sign something saying we have the authority to see your utility bills on a monthly basis.

It puts those together with the common

space, the common area utility bills and pinpoints where they've got the greatest opportunities for efficiency.

CHAIRPERSON PFANNENSTIEL: Is this in the public domain?

MR. STONE: No, but that is what I was saying, the Commission should develop something like this and put it in the public domain.

MR. PENNINGTON: Nehemiah, there are a couple of recommendations here related to energy ratings. Do you have any comments on that?

MR. STONE: No, I didn't. I might read through it, and see if I can come up with some, Bill, but I read through it, and I didn't have any comments on that section.

MR. PENNINGTON: I'm looking just at the slides themselves.

MR. STONE: I'll go back and look at them.

MR. TRENSCHEL: All right, thank you. Claire.

MS. BRESSANI TANKO: Hi.

MR. TRENSCHEL: Please introduce yourself to everyone.

MS. BRESSANI TANKO: Sure, I am Claire

Bressani Tanko with the Local Initiatives Support Corporation, and LISC is our acronym. We are a non-profit and we currently run one of the public goods charge third party programs called Energy Action that specifically works with multifamily low income properties.

I had a couple of concerns I wanted to raise in looking at this section of the report. One of them being that I am concerned that the trigger events don't include on-going O & M type of activities. An example of this is -- I definitely agree that rehabilitation projects are a perfect opportunity to make use of some of the recommendations.

In the two and a half years that we've been in operation as a program, we have audited more than eighty large multifamily properties, and of those properties, only around six were actually about to undergo or in full phase development of a rehab. So, I am concerned that trigger would not get at enough of the stock to really make a difference.

Similarly, a lot of the properties that we deal with completely master metered older facilities, and there is a lot of opportunities that are low to no cost that don't necessarily require an entire gut rehab to actually implement boiler control measures, for example, things that can help their existing systems operate more efficiently.

Another concern that I had was that there wasn't as a recommendation an item for training. As everyone knows, this is definitely a hard to reach market, and one of the reasons why that is, is because there is so little resources in terms of O & M, and there is a lot of staff turnover at the maintenance level, and it is really important that knowledge transfer continue in this sector, not just for maintenance stock but also for property managers.

Mr. Stone's comments are great. We work with Mid Peninsula Housing as well, and we developed a software tool that is in the public domain that does exactly what Mr. Stone describes, and we give it out free, and it is on our website. I can give it to you later. That is one of the things we found is that property manager themselves need the information to know what would trigger a non-rehab type of retrofit.

Finally, I just wanted to mention,

actually two other things. The recommendation to work with HUD on the separate utility allowance guidelines, Mr. Stone has a program that works with this and so you can correct me if I am wrong, but I thought that actually involves the Public Housing Authority to a great extent. I was wondering why that was left off of the recommendations.

I'll just go on to my final comment. Providing financing and incentives, the last recommendation. I thought I read this maybe somewhere in the report, but I just wanted to clarify that in creating those types of financing incentives and working through the existing housing agencies at the state level, that there is some movement to create new money for that because those agencies are already stretched. I can definitely argue, so I just wanted to make sure that includes new money. Thank you.

MR. STONE: I'd like to address her comment about the utility allowances. The reason I didn't raise any objection to what I read here is because it looks exactly in line with what I was thinking, and I am not sure if this is what you meant now that she mentioned there might be a different interpretation.

We are working with the housing authorities to adopt an energy efficiency based utility allowance, and the biggest hurdle that we found is the housing authorities want to know what HUD thinks of it, and they want something in writing. HUD will tell me time after time on the phone, this is a great idea. Every time I ask them if you will put this in writing, the answer is of course not.

What we need from HUD is we need something where HUD says we are not going to come and hit you with a stick if you do this because all housing authorities are currently really under funded, under staffed, and over worked, and they can't take up a fight with HUD, they can't do it.

What we need is we need work with HUD to have HUD come out and say in their guidelines, this is one of the things that you ought to be including is the difference in energy efficiency between A and B. We are actually working with some HUD folks to accomplish that, it is kind of this black box, and I don't know how successful it is going to be until it comes out the other end.

To get back to your question, Bill,

about energy ratings. I assume what you were talking about is having those included in the regulatory process and the funding processes for the other state agencies. You heard on those conference calls that everybody feels that try to keep it down to the minimum number of people that the affordable housing people have to deal with, and I think that is the key here.

I think another key that you need to be aware of is that I don't care whether you are talking about Cal HFA or HUD or TCAC or SDLAC or any other state funding agency, none of them have one-tenth of the background on energy efficiency that anybody working here has. So, you need to go in real humble, but you need to realize they are not going to do any of this and get it right anyway without a lot of help from you.

I'd like to give you one real quick example if I can. Right now they are about to start the second round of funding for tax credits, and one of the ways that you get points to qualify for that is to show that you are 15 percent better than 2001 Title 24. If you get 25 percent better, you get more money from them.

The people who win that round, which is

going to happen in early June, won't be starting construction until early 2006, won't be pulling their permits until the end of this year. The houses, the designs that got them the points and got them the extra money, may not legally be built under the 2005 standards. Nobody there had even thought about it. They had no clue that this was coming at them.

I put it in writing to them a couple of times, so I don't know why they don't have a clue on it, but that is an example of the fact that they don't know what's happening with energy and you need to work with them very closely to make sure they do because it is a real simple thing to include it in their cycles.

MR. WAITE: Comment by phone. Certainly I thought it might be useful to hear from HUD at this point. This is Wayne Waite, the Regional Energy Representative for the Pacific Y Region. I have several comments that I'd like to take up where Nehemiah left off in regards to the utility allowance.

The utility allowance issue is not -- I don't want to mischaracterize it being in a black box somewhere what the specific problem the state worked out with regard to the utility allowance question that Nehemiah and I have cooperatively worked on is trying to frame the permissibility of in a sense adjusting utility allowances within the current regulatory structure.

Under the current regulations, utility allowances may be set for building types, so public housing authorities today have the ability as in the case of Riverside, California to establish utility allowances that reflect the distinctive energy consumption patterns of specific building types.

The question I think that is creating a bit of confusion, certainly within the HUD community and certainly from the public housing authorities, is that can a building be designated is an energy efficient building a distinctive building type within the framework of the regulation.

That is a specific question that is being I think wrestled with back in headquarters. Nehemiah knows that we are fighting a battle with regards to this, but you know, it is not -- the question is not being lost anywhere, it is just difficult for many people to see a given building as a energy efficiency building as a distinctive building type.

They typically think of a single family structure or a high rise structure or something like that as a building type, and that is kind of where we are.

The other part of the utility loss issue that I think is important to kind of bring to the table is that the real crux of this issue relates to the low income housing tax credit program. That is that the IRS, within their regulatory framework as they administer the tax credit program prescribe to the state housing finance agencies that they need to adopt utility allowances that are typically set by public housing authorities, so in California that seems to be the default.

The IRS also allows project developers to establish utilities allowances for the properties based on survey information. This is certainly done in the State of Nevada, and those surveys can be in a sense framed to reflect again distinctive energy consumption patterns of lets say new construction versus older construction.

HUD is not only part of that utility

allowance solution, I think it is worthwhile to have state to state agency discussions with housing finance agencies in California to design regulatory language that in a sense corrects this anomaly that effectively penalizes builders of newer affordable housing or substantial rehabilitation projects, in a sense, getting the right financial incentives to make those projects work out.

Kind of moving forward, with regard to the scope of this section of the report, I share a similar concern that Claire raised. I believe when we talk about rehabilitation projects and preservation projects, we are really only getting at the tip of the iceberg.

This section of the report reads as if it is targeted specifically at projects that are applying for tax credits or state bond financing or other financing or grant programs from HCD or Cal HFA.

As Claire pointed out, there is just a multitude of other projects that have been built prior to 1980 that are looking for energy efficiency upgrades as opposed to whole project rehabilitation.

Their problem is one of as Claire pointed out training, I would also add to that technical assistance and offer the comment and observation that when we talk about developing new projects or even substantial rehabilitation projects, it is very common and typical in the housing industry to have effectively design teams to kind of move those projects forward, and some quite notable cases, there is representations from Global Green and other energy efficiency advocacy groups that provide technical assistance as part of that project.

When we talk about existing structure that really aren't in that full rehab mode or gut rehab mode, the person that you are dealing with virtually 100 percent of the time is the asset manager and solely the asset manager. There's no design team around that asset manager, and really a significant gap in moving project forward is the in effect the lack of technical assistance that can in a sense do the hand holding and embracing of that property and walking them through the steps whether it is accessing rebate programs or in a sense interpreting the audits that are done.

There is really a gap there that is

virtually hard to bridge and a lot of the third party programs attempt to bridge that gap, but not withstanding those great efforts. There are other projects that at the end of the day after receiving all of this in a sense assistance, either decline to participate or nominally move forward with a very limited project, and we don't really reap the full benefits of energy efficiency. Technical assistance is a fundamental gap.

With regard to financing, I know this was discussed in earlier discussions. The state housing finance agents (inaudible) are also strapped. I think a person in this morning's conversation talked about there being an affordability crisis within this state. That is certainly the case with regard to the development of multifamily housing.

It is really a stretch to believe that the current programs as they are currently configured would provide a reliable or even significant resource to undertake energy efficiency projects, especially for this other group that again, that hasn't been really squarely addressed within this report. Yet, that being the existing properties that aren't looking for a large scale rehabilitation.

With that, I will conclude my remarks.

MR. JACOBS: Thank you, Wayne.

MR. TRENSCHEL: All right, lets move on, shall we? Anybody else?

MR. CENICEROS: (Inaudible). I don't know where else to say this. A colleague this morning just pointed out that she couldn't find anywhere in here where we were addressing non-low income multifamily housing, although many initiatives touch on all types of housing in here, and I just wanted to make sure we are not inadvertently overlooking some opportunities there because I know at least at SMUD there are program areas where we are not actively addressing multifamily housing, and I think that may be the case elsewhere too. It might be good to take an inventory of all your initiatives to make sure we are adequately dealing with all multifamily housing needs.

MR. JACOBS: Anybody else.

MR. WAITE: One more comment by phone.

MR. JACOBS: Please.

MR. WAITE: Okay, Wayne Waite again with

US Department of Housing and Urban Development. I neglected to mention that on the question of financing -- I guess what I perhaps I was most struck with in the report was really the in a sense lack of kind of a new financing initiative on the part of CEC.

The CEC has some in a sense terrific programs for public agencies to undertake low cost financing, to undertake energy efficiency improvements, and there are a number of programs out there like that, but they kind of bypass affordable housing or multifamily generally.

I think it might be prudent to consider establishing such a low cost lemon program that can begin to address some of the needs of again this other group that is not really discussed a whole lot in this report.

MR. JACOBS: Okay, let's move on. We are shifting gears to the commercial sector, the first intervention that we are discussing on the commercial side is benchmarking. I think we have heard a little bit about this already.

It is a voluntary intervention although we do have some potentially mandatory components envisioned.

The primary role of benchmarking similar to the information to all homeowners envision as really the information portal or the entry point at where you capture the attention of a commercial building owner.

You use this at time-of-sale or time-of-refinance of commercial properties to bring this information into the process. Basically, a description benchmarking and tracking. I know we talked about that a little bit before, but benchmarking abilities and tracking of building performance over time would be done in conjunction with the customer service interface on the utility website.

When engages in a benchmarking activity, they can answer a series of questions about the building, the more detail the respondent is willing to go, the higher -- the more specific the information becomes. It is the concept of a multilevel analysis with greater and greater levels of information and specificity.

As that information becomes available,

then the individuals would be targeted to particular programs and provide information. We would target customers for additional services based on that information so we can use this to pre-screen, pre-qualify customers and funnel them to audit and retro-commissioning programs.

We are considering a requirement to bring benchmarking information into time-of-sale or time-of-refinance transaction, and also as part of our commercial leasing initiative, which we will talk about here in a little bit, potentially having benchmarking be incorporated as a clause in a lease that encourages energy efficiency where the benchmarking information brought into the transaction would be disclosed to both the appraiser and the lender.

Our specific recommendations are very much in line with the green building initiative. We like the idea of co-planning with Energy Star, there is a lot of recognition in the marketplace for the energy star benchmarking system.

We like the recommendations that state agencies move forward and be piloting and implementing the system, and we realize that there are some issues on data access and data ownership that we touched on a little bit on the residential side that are probably more important on the commercial side mostly because of the fact that individuals that generally receive billing information within commercial entities aren't the ones that are going to be able to take action on energy problems, so we need to have multiple individuals within an organization able to access the benchmarking information.

With that, we will open it to comments.

MR. BLOMBERG: If you benchmark without daylighting, what kind of a benchmark do you get? I will give you an example, PG & E had an expert program, and they worked to develop a variety of buildings with the most energy efficient buildings possible in a variety of categories and a small office building in Antioch, the California Automobile Association building was one of those buildings. When they got all through and measured the energy use, the savings over a year, they had a whole room for the instrumentation to measure the benefits of each strategy. Daylighting was two-thirds of the savings. When they had done everything else to make that building as efficient as possible, so, I mean --

MR. RAYMER: How many stories was that?

MR. BLOMBERG: One story. Obviously, there are all kinds of buildings.

MR. RAYMER: I am familiar with the building.

MR. BLOMBERG: For some reason, the simplicity of daylighting causes people to go deaf and blind or something because they want to make it complicated.

COMMISSIONER ROSENFELD: I guess I don't quite understand the point you are making, although I agree completely, I was familiar with that building, but daylighting was super important, but under benchmarking, it would show up as a super efficient building.

MR. BLOMBERG: If you make a benchmark someplace where daylight is not included, and then somebody does some trivial thing and makes it look better, benchmark was here in order to make a comparison. I am just saying let's just make a big difference from a particular benchmark. Daylighting can be that big difference, and it is simple.

COMMISSIONER ROSENFELD: I may sound a little defensive, but the idea behind benchmarking as I understand it is really to look at the two extremes, the dogs which would then presumably get a utility financed audit and have all these good potentials called to the owners attention, or at the other extreme, you give rewards to the super efficient ones. So, in both cases, it would be feet on the ground who would point out the potentials.

MR. BLOMBERG: I am probably misunderstanding the use of the term benchmarking. In other words, I was saying this building uses so many BTU's per square foot per year, so that is a benchmark. Now we are going to try to bring all of the buildings to that level or be better than that.

COMMISSIONER ROSENFELD: I repeat, benchmarking as I understand the way it will go in first is particularly call attention to the very bad buildings and the very best buildings and the great unwatched in the middle will probably receive rather little attention.

MR. BROOMHEAD: Cal Broomhead. My question is have you ever talked this over with the utilities with the IOU's in the state?

MR. JACOBS: We have had some

discussions with utility representatives.

MR. BROOMHEAD: I was talking with PG & E Account Services folks, we've had this partnership with PG & E, and I asked them this question about benchmarking. Have you benchmarked all of the largest consumers, and they said, yeah, we have all of their data, and we can pick out the ones that we want to go after, and right now, they have every incentive to do that. So, it might be a question of the utilities may already be doing something that you want to create a program around, and it might be something that you can get done a lot faster through cooperative arrangement with the utilities.

MR. PENNINGTON: I just comment that we have had utilities involved and continue on that front. Gene Rodriguez at Southern California Edision has been actively involved in our discussions and you know, I heard him on Friday say that this work is an important step in having a very aggressive benchmarking program throughout the state, and that, in fact, he was saying that the utilities program plans for 2006 to 2008 are likely to evolve from what comes out of AB549 stuff and the benchmarking work related to green building initiatives into a more specific campaign for benchmarking that the utilities would be at a leadership point to deliver.

MR. JACOBS: Any other comments on benchmarking? We had a big hearing on that a couple of weeks ago. A lot of those issues got bedded at that time. Let's move on.

The next issue on the nonresidential side is retro-commissioning. We envision this as a voluntary initiative. Referrals from the benchmarking system and especially information that is collected from benchmarking to help identify key candidates for targeting for this type of service.

So, a key trigger event would be a referral from the benchmarking system. Also potentially, retro-commissioning at time-of-sale, time-of-lease, time-of-remodel, and an important trigger event for many businesses is considering their budget cycles especially when retro-commissioning may involve some need for capital expenditure.

Just in general, retro-commissioning of existing buildings following leads from benchmarking system as a screen or retro-commissioning, we are viewing this as an on-going process, it is not a situation where you go in and provide a service and then the relationship ends.

Generally, what happens with these kinds of programs is you do the low cost/no cost interventions first, and then you start moving more into equipment replacements, broken component replacements, and then ultimately into audits and major equipment replacements that may also bring in incentives and other program types. We see this as sort of a comprehensive strategy that occurs over time, and that these projects would likely be phased starting with a no cost/low cost first moving more into more comprehensive involvement.

Looking at both audits and incentives for some of these capital improvements or if individual businesses or entities qualify, potentially some direct installation and measures for specific load hard to reach groups.

Retro-commissioning that has been called by a study recently by LB & L is probably the most potent opportunity to affect energy efficiency in existing buildings. However, in order to move this into the marketplace, recent experience has shown that we will probably need some incentives to prime the marketplace to get these things going that eventually those incentives could be withdrawn.

Our specific recommendations are to so we support the green building initiative and their recommendation that all retro-commissioning occur on all state buildings. We also need to provide on the private sector side case studies that are relevant to commercial business owners so they understand the nature and the benefits of retro-commissioning.

We also would like to engage the conversation with entities at corporations that are in the risk management, not just the energy efficiency or the energy management side, but also the risk management side. We see some real strong synergies between the kinds of benefits you get from retro-commissioning and the issues that the people in the risk management area are interested in addressing.

Finally, we feel like there is a real need to build infrastructure in terms of training and so forth to sort of prime the marketplace and put the infrastructure in place that is necessary to have this take off in a big way.

With that, questions, comments?

MR. BURGOYNE: Yes, one comment. One of

the recommendations that the state require that is already accomplished through the executive order and the green building action plan which does require that all state buildings over a threshold of 50,000 square feet be retro-commissioned, so that piece has already taken place. Now, that doesn't mean we are capturing all of the benefits. We could certainly benefit from retro-commissioning smaller buildings, but for a starting point and with our huge portfolio of buildings, that is a tremendous task in itself.

MR. JACOBS: Right. Go ahead Greg.

MR. ANDER: Bill and Dan and I actually sit on the board of the California Commission and Collaborative, and we had a board meeting last week. At that meeting, RLW presented some preliminary findings of a study they are working on. One of the things that was a little troubling was that while we all recognize that commission and retro-commissioning has a lot of efficiency attributes, there is a concern that there is enough infrastructure in place to actually deliver this.

I think it is important that we continue that sort of training of this industry, it is in its infancy. Part of Edison's 0608 filing will have a retro-commissioning program, so we are trying to go about it in a big way, but again, we are very concerned that there is enough bodies out there to actually do it. You may want to check that RLW report as well.

MR. BURGOYNE: (Indiscernible).

COMMISSIONER ROSENFELD: I might make the point this isn't a question, this is a comment to Greg, but if there are data on the cost effectiveness of commissioning, you should make a big point of that, so that commissioning expenses get credit for meeting your goals for the next few years and your planning.

MR. ANDER: Oh, indeed, yeah. The program we are putting forth would go towards those billing KWh also.

MR. BURGOYNE: I wanted to add too that the commissioning collaborative is also developing commissioning guidelines for new and existing building commissioning. They use Green Building Counsel also has some efforts on your way to expand on their reference materials for commissioning.

MR. TRENSCHEL: Nehemiah.

MR. STONE: Yeah, just a quick question. What I heard you say, Pete, was that the goal would be to go after the easier ones first and then on to -- with retro-commission, how would you do that in such a way that you didn't end up taking a lot of things off the table because by the time you gathered them all hanging fruit, a lot of other things would no longer be cost effective, rather than bundling them together.

Why would you go off the strategy of picking off the low hanging fruit first and then going after other things rather than bundling everything that made sense together.

MR. JACOBS: I think a big part of it is in delivering the service, you know, a big part from an implementation side is finding the buildings are worth investing the time in. There are some fairly simple screening questions you can ask. Does the building have an energy management system, does it have electric reheat, things like that, along with the building EUI that can help prequalify buildings for that type of intervention.

I think your point about having this be a less than comprehensive service, I think our intention was to sort of start with commissioning first and then move into more comprehensive upgrades as part of an on-going process. So, it is your concern that once the buildings are made more efficient, then they would be less suitable for lighting upgrade or something like that?

MR. STONE: Yeah, I thought -- maybe I misunderstood you. When you were describing this at first, I thought what you were saying was on a specific building, you would go after the easy things first and then come back and do the other measures that were more difficult.

MR. JACOBS: Yes, I think just based on interviews that we've had with folks that are providers, that is generally the way things go. The opening of the relationship is more of the low cost/no cost, and then once you gain confidence with the process, then it moves into more capital items.

MR. TRENSCHEL: Yes.

MR. BLOMBERG: Supporting what Nehemiah was saying, if you daylight the building first, you might not want to retrofit the electric lighting because it would only be on a short time each day.

COMMISSIONER ROSENFELD: I think I want to make a comment. Nehemiah has made a good point, and that is when you refer a building for commissioning, obviously you want to look at the most inefficient buildings first. When some sort of report is made as to what are the potentials of that building, the commissioning agent wants to recommend everything that comes to mind, not just the stuff with one year payback.

I remember one of the most convincing ads I've seen is probably 30 years ago in building retrofit business was an ad by San Diego Gas and Electric at a time when there was considerable interest in thermal storage. What they said in a full page ad was come to us with your plans for thermal storage. Now we think it is very cost effective, and if the payback time is less than three years, we won't help you, we will bless you, we won't help you. We will help buy down your whole plan for three years. I think that is the point that Nehemiah is trying to get across, which I think we probably all agree with.

MR. STONE: Sounds like I just misunderstood.

MR. JACOBS: Does anybody else have any

comments they want to offer on retro-commissioning? Bruce.

MR. CENICEROS: Bruce Ceniceros with SMUD. I just want to share a little bit of our experience at SMUD in retro-commissioning. A few years ago, we did about 25 to 30 buildings, and things that happened were that first of all giving away the service of retro-commissioning, we had a hard time getting takers. I think times are changing now and people are getting more knowledgeable, but the marketing end of this is going to be very important in terms of making sure that people, you know, building owners would understand the value of these services and it goes beyond just saving energy too.

The other thing we learned was that it took considerable time for the building owners to implement the recommendations, two to three years really to realize the full benefits of the savings that through operations and gradually came up with a portfolio of recommendations that they received, and a lot of them never did very much of it, but those did at the time.

We really have to feel our expectations to this and until it comes common place knowledge the value of doing these kinds of services out there in the market.

MR. TRENSCHEL: Let's try to move on to the procurement intervention, and then we will take a look at what we have left to go and how much time we have to accomplish it.

MR. JACOBS: Okay, the next issue on the table is procurement and procurement support. This is a voluntary intervention. This is aimed specifically at state purchasing and also various nonprofits that are true California law able to purchase off the state contracts.

In general, we have in mind a set of acquisition standards and specifications, and a centralized product assessment function. We feel like this is an important issue to really identify products and to qualify products and certify the products are indeed energy efficient and qualify for special treatment.

Also developing a sales force, understanding that the purchasing structures throughout the state and certainly at the local level are diverse and need to be diverse for lots of good reasons.

In order to get information about

efficient products into their hands and made procurement practices, you really need a sales force to get out and spread the word and also to develop some communication networks to get feedback, case studies, and so forth and to support the overall initiative.

Our specific recommendations following off the Green Building Initiative, executive order for energy efficient procurement practices for state agencies, legislation with funding necessary to establish this system, to establish the overall system and specifically this centralized assessment function which you feel is very key.

Coordinate with the existing practices that are in place, the environmental preferable purchasing team and a recommendation perhaps to move this from the energy side into the purchasing side.

With that, comments please. Dan.

MR. BURGOYNE: Yes, I just wanted to comment that I understand this whole bill and report is about energy, but you know, the effort and environmentally preferable purchasing effort is a multi-pronged effort and reading this report, all it said is to look at energy, but, you know, we need to -- I guess we ran into this issue on recycled content product, and there was a law that came out, and for a number of years, that is all anyone cared about, and we need to make sure that we are looking at the whole, not just energy use, we look at embodied energy used to manufacture the products, that we also look at the materials that are used, the emissions of the materials, the end of life use of the materials.

There are a lot of issues that we need to look at besides just energy, and I want to make sure we don't break up that family and just look at energy. Yes, it is important, it is part of a whole big process, and there is a lot of effort to tackle that whole process.

MR. BYERS: Jim Byers, I'm with DGS, State of California. Coincidentally, I recently changed jobs about a month ago, and prior to that, I was with Procurement Division, Department of General Services for 18 years writing specifications for procurement on everything the state purchases.

My comment was really the whole basis of this seem to be voluntary participation. All I can say is just from my experience that voluntary things don't really happen in the procurement realm.

There are so many forces that are on procurement people from existing laws, the customers needs, the vendor community. Really the procurement people, all they can really focus on is really following the law. That is pretty much all they try to do.

Also I would say that when you are trying to get somebody to do something voluntarily, I think it needs to benefit that person. In the case of procurement professionals, they are not really -- for something like this, they are not actually benefitting. The ultimate customer might benefit, but the people that are involved in the procurement, the things that they are interested in is can we get this thing accomplished without having a protest and what not. Can we do it in a reasonable time, can we just get this thing done. That is hard enough to do without -- there is really no motivation for them to do this kind of thing. My recommendation would be to make it mandatory and if possible put it in the statute.

MR. TRENSCHEL: Thank you, question.

MR. PENNINGTON: Can I ask you ask you a question, Jim?

MR. BYERS: Oh, sure.

MR. PENNINGTON: Who would be required to do this? Are we talking state government, are we talking about all state agencies who purchase, are we talking about local governments who purchase?

UNIDENTIFIED SPEAKER: That's my question.

MR. BYERS: Actually, under state law, you know, the Department of General Services has oversight over all state procurement. Of course, that doesn't include local entities, but as far as state procurement, you know, they have oversight over all state procurement by any of the individual agencies.

If you were to pass -- most of the statutes related to procurement simply direct the Department of General Services to do this or that. That can apply here. You can mandate the Department of General Services to include energy analysis when any procurement is made on energy consuming equipment. That is how I am thinking it would be done.

MS. HUSSEY: You are saying that rather than make it a voluntary intervention at least as far as state government is concerned, make it a mandatory?

MR. BYERS: Yes.

MR. RAYMER: Could I ask him a question?

MR. TRENSCHEL: Sure.

MR. RAYMER: This is in regards to state government, in the governor's executive order, was it goals or a directive to the state operated buildings? I think it was a goal.

MR. BYERS: It is pretty much goals, yeah.

MR. RAYMER: Do you think that would be far out of the realm to basically say that this should be come part of the procurement process when you are looking at rehabbing existing facilities or going into lease arrangements for new ones that just be part of that? I don't think it would be a far stretch to do that.

MR. BYERS: To make it mandatory?

MR. RAYMER: Yeah, I think you may have

good idea here.

MR. BYERS: It's the only way that things are going --

MR. RAYMER: Happen.

MR. BYERS: -- happen. I mean, these things are just so easy to ignore. They will be ignored. There is another comment in here in your assumption. It said talking about mandatory participation, you said it is not needed, mandatory participation is not needed, and the resistance to a mandatory approach would be strong. I don't actually think that is true. I think as far as the purchasing professionals are concerned, they would love to see that mandated because it takes all of the grayness out of it, and then it is just something that has to be followed like umpteen other things that they have to follow. There wouldn't be resistance to that as long as it was clear and something that they had to do. The other thing when it is not clear that it causes problems.

MR. PENNINGTON: Jim, before you leave. I thought the notion of this initiative was to expand substantially beyond state government and get local governments to do procurement and even expand perhaps beyond government and have a centralized procurement function that a lot of people could participate in. I thought the sense, and maybe I didn't understand this, but I thought the sense was that there would be major interview savings if you could get really gigantic set of purchases participating in a centralized program.

If that was true, if my understanding is true, then you couldn't extend this mandatory idea very far into that growth area that I thought we were trying to work on.

MR. JACOBS: No, you're exactly right. I mean the attempt was to bring in both, you know, state contracts as well as local governments and non-profits that have the advantage of being able to purchase off the state system, so wouldn't recommend anything mandatory beyond the state procurement offices, the incorporation of these other market actors would be certainly be voluntary.

I think the key part of this is this centralized product assessment, coming up with -- first off deciding what products qualify, how to write specs for those that are essentially bomb proof that would stand up to a challenge.

MR. BYERS: Yeah, that idea may have some merit, I think it could possibly be helpful, but if no one is required to use that service then they probably won't.

MR. JACOBS: It seems like what makes sense is to have it be mandatory on state contracts and voluntary on other groups who certainly get the pump primed through the state process and then invite the other groups to participate.

MR. TRENSCHEL: Let's see, I've got a couple of people on the line here for comments.

MR. BYERS: Just adding that we have a lot of master contracts, and I think you even mentioned that the state -- a lot of the local agencies use. It was mandated by the state, then it would spread out into the local agencies in that manner.

MR. TRENSCHEL: I believe you walked over to the area --

MR. BROOMHEAD: Cal Broomhead. The City and County of San Francisco has had a energy efficient purchasing requirement on our books since 1997 and have only hit a very few items. Even with that mandatory requirement, it still required a good deal of monitoring.

We are still hunting down incandescent light bulbs that are being purchased off the city contract that they are not supposed to be purchasing, but you need to have cooperation with the suppliers also to get the data to be able to track this stuff down because you've got purchasers and all these departments, individuals doing things the way they've always done them, even though you've got some new agreement on the books. People -- they don't always read the agreements and know what the latest twists and turn in them is and stuff is going on all the time.

Our DPW trucks can go out and buy $400 worth of stuff every day just from local hardware stores, so the system is leaking all the time. So, mandatory -- there is a lot of voluntary stuff that is going to go on anyway regardless of what kind of contracts you have, but I think I would agree with Jim, that we didn't really start to make a real dent on this until we had some mandatory requirement. You had something to point at, and then it made it easier for the purchasers. So, this is clear, here is the spec, this is what we have to get.

COMMISSIONER ROSENFELD: That is so interesting, can you give a couple of examples of items that you finally got onto the list that has to do with lighting again --

MR. BROOMHEAD: 500 watt incandescent lightbulbs were on the list --

MR. RAYMER: Wow.

MR. STONE: Heaters.

MR. BROOMHEAD: Were on the list.

MR. RAYMER: Was that for the tanning booth?

MR. BROOMHEAD: Yes, we were trying to get them off the list all together, but the guys out of the fire department, when they want to buy something, they just go down to Home Depot and get it.

We have required that only electronic ballasts may be purchased for florescent lighting for instance. We think we are getting pretty good compliance with that because the contract price is actually cheaper for the electronics than it is for the magnetic, so that was kind of an easy one to do, but it is wherever you have it becomes more expensive to follow the term purchase agreement

than it is to go out and buy something through
some other means then you get leakage.

MR. PENNINGTON: And daylighting is one

of the options, right?

MR. TRENSCHEL: All right, any other comments? Nehemiah.

MR. STONE: Yeah. One of the things that we see in working with people on building design is something that is called over the wall design where the architect does this piece and throws it over to the mechanical engineer, who does his piece and throws it over the wall to the lighting guy.

I would recommend against the corollary on this because --

COMMISSIONER ROSENFELD: I didn't hear you, you would recommend against?

MR. STONE: The corollary on this at the state government level because you have ADA requirements and fire requirements, etc. Make sure as you go through this that you have at the table the State Fire Marshall's Office and ADA people and everything else.

MR. RAYMER: That would be the Division of State Architect for the ADA requirements.

MR. BROOMHEAD: If I could add one other
comment and that is to include mercury in your
specs because we are having a real hard time

included in everybody's thinking.

MR. JACOBS: Anybody else?

MR. TRENSCHEL: No others. Looking at the clock here, if we were to continue along this route, we need to consider putting off one or two items here, probably about two items, maybe three. We could put a little democracy in action here to see a raise of the hands of those things, or I could just merciless on the schedule and say, time's up, let's go to the next item. Is there a preference among the people here as to -- are there some items on here that generally the group thinks we can pass on those.

MR. RAYMER: Do you want to just brief the stuff and ask for questions at the end?

MR. TRENSCHEL: It might be a little bit confusing if we had a bunch of things --

COMMISSIONER ROSENFELD: I'd get confused.

MR. TRENSCHEL: Yeah.

MS. HUSSEY: The other thing might be is that if you have something you really want to say, but it is critical that you could put it in writing is to hold the comments that you want this on the record, give it to us in writing by the end of the week, and, you know, we will go on when we get to that subject unless it is critical that it be shared.

COMMISSIONER ROSENFELD: What time are you trying to end?

MR. TRENSCHEL: We would like to finish up here by 4:00 and still have a little bit of time when that strikes 3:00 to take a stretch break. Do people want to take that stretch break now?

COMMISSIONER ROSENFELD: That wouldn't be such a bad idea.

MR. TRENSCHEL: We can go over a little on the time, but I don't know how that fits in with the schedules of individuals here. It is not a problem for those people on the phone, is it? We can let that phone line go on past the 4:00, but I don't know what is the sense here? Does anyone have a preference, stick to the 4:00, try to do the 4:00?

MR. BROOMHEAD: Demand response. I want to hear (inaudible).

MR. CENICEROS: Maybe you could propose a couple of areas that just put last on the agenda if we don't get to them because we covered them so well maybe in previous workshops and forums. I have a couple of suggestions if you don't, but you probably know the areas better than I.

MR. TRENSCHEL: Well, that is another possibility. Demonstrations and case studies would be an item that I think could be --

MS. HUSSEY: (Indiscernible).

MR. TRENSCHEL: -- put to the end. If time permits, we could talk about that. Branding that is possibly another item that we could put at the end. Let's do that, let's move those items back, and if we have time to get to them we will. Why don't we take a 15 minute break here, come back here. I have 2:40. 10 minutes.

(Off the record.)

MR. TRENSCHEL: That would be commercial leasing. So, take it away, Pete.

MR. JACOBS: Leasing is primarily and information initiative. We want to try to get information out in the marketplace a little more widely in terms of how to structure leases to help mitigate the split incentive that occurs in lease properties.

It is a voluntary intervention. The trigger events are the time of lease or the time of lease renewal on an existing property or an existing relationship. In general there are model leases that are in the marketplace right now. In particular one from BOMA that is very comprehensive, and it is just a matter of pulling some of those practices and making those practices known to both tenants and landlords and real estate agents on how to structure leases to make energy efficiency mutually beneficial for all parties.

We want to look at focusing on tenant improvement as a major trigger event, doing the types of upgrades that one might want to implement under an energy efficient lease arrangement.

An important issue is to try to catch this before a lease expires. One a lease has expired, there is all this time pressure and so forth to move forward and given the lead times associated for designing and implementing projects, and you could catch it before it expires.

We want to market this to commercial

real estate agents, put information into the marketplace so that they understand and also work with those leasing agents to help identify projects that might benefit from this.

Now specific recommendations, discussing primarily USGBC, Energy Star has at least mentioned within the context of their benchmarking system, but I am looking at or engaging in USGBC on potentially incorporating lease requirements as an option for earning lead credit.

Through education with real estate agents, property managers, and building appraisers on this issue, potentially looking at tying this in to the benchmarking initiative where having a clause in the lease where bringing benchmarking information into the process.

Looking also at a concern of commercial property owners in terms of how improvements, energy efficiency improvements are handled from a local tax scenario, whether there is a tax exemption which you can transfer payment arrangement that could be done to mitigate impacts of energy efficiency improvements from the tax base.

With that, we will open it up to

comments.

MR. TRENSCHEL: Anybody on the telephone want to offer a comment. I don't know if we have anyone on the telephone now.

COMMISSIONER ROSENFELD: I hope the absence of comments is because we are all convinced and not because we are bored.

MR. TRENSCHEL: All right.

MR. JACOBS: Okay, let's move on. The next one is upstream interventions and manufacturing partnerships. This is envisioned as a voluntary measure. It doesn't have any particular trigger event, but certainly impacts the general availability of efficient products in the marketplace.

What we generally have in mind is address risk and cost barriers from the perspective manufacturer to bring energy efficient products to the marketplace through both R & D for product development and also rebates and other incentives to reduce costs.

The idea here is that given the multiplier effects throughout the price distribution chain, it may be more cost effective to apply rebates at the manufacturer level and have those trickle down to the marketplace than apply them at the end user level.

Certainly tying this to purchasing and

procurement as we talked about earlier to prime the market for some of these products and also linking this to our information case studies and demonstration initiative.

Our specific recommendation is to follow on some of the good work that is being done currently with PIER and with R & D to prioritize opportunities, develop some strong partnerships with manufacturers on specific products. Our report I think generally -- one of the areas that we are most interested in pursuing within our report is the commercial office products, computer equipment, and specifically energy efficient power supplies for office equipment.

Also the other recommendation is to engage discussions with the CPUC in terms of policies towards upstream programs. There has been a real sort of change in emphasis towards more end user programs, and we would like to bring that manufacturing partnership in upstream programs also onto the radar.

With that, I will open it up to

questions.

COMMISSIONER ROSENFELD: I have a comment. The trouble is I don't know whether it belongs here or it belongs in half an hour when you get to demand response, but I will just mention the magic words, and then maybe we will bring it up later.

One place where the state is going to need some sort of a golden carrot program is cheap communicating thermostats or you might call them gateways, but where we are right now in planning for demand response is that the utilities have all agreed that they intend to put in interval meters and offer demand response tariffs.

Of course, that doesn't do you much good unless you have intelligence on the premises which you can program to respond to high prices or emergencies.

Let me call it a thermostat, a communicating thermostat. They still are relatively expensive, but there is mass purchasing involved here because as it has come up several times today, we go 150,000 new dwellings and it is a year, and a couple of years of that is 300,000 units. To bring the price down, we are going to have to work on some sort of a mass buy. I might say a few more words about that when we get to demand response, but it is just an example of the sort of thing you are talking about.

MR. JACOBS: Indeed, and quite frankly, we hadn't focused on that particular technology in the report, but thanks, but we will certainly do that.

MR. BROOMHEAD: I haven't read your report, so I'm not certain whether what I am saying is -- but I think some of the comments that have come up under the --

COMMISSIONER ROSENFELD: A little closer to the mike.

MR. BROOMHEAD: Some of the comments that have come up in the program advisory groups for the work that is funded under PGC and now the procurement dollars under CPUC administration is that the merging technologies all need to get some kind of credit in the system so that utilities can feel that their effort is going to be compensated at getting technologies off of the shelf and into the place, and I will be talking more about this when we get to demand response also because there are some items there.

One thing that we are going to be working on in the next six months is beer signs, getting them to go from neon to LED. Of course, in San Francisco, we have a lot of beer signs with all of our little mom and pop grocery stores and restaurants and that sort of thing, a lot of corner liquor stores that have a lot of them in them. They average like 5.4 which ends up being a lot of watts, so we are interested in how to convert that segment of the market to LED.

MR. CENICEROS: You need an appliance standard for that.

MR. BROOMHEAD: For a beer sign?

MR. TRENSCHEL: All right, anyone else? Very good.

MR. DAY: Michael Day with Rockwood Consulting. Is the thought that this would primarily be piggybacking on the R & D work that is already occurring from PIER and would utilize those funds, or is it looking at some other source of funding?

MR. JACOBS: I think in general the funding issue is something that we are going to need to approach as things become a little bit more clear in what priorities are and we start to narrow things down a little bit.

At this point, we are not making any specific recommendations on funding sources other than funding needs to be available beyond current levels for certain interventions.

I would say whether a rebate program directed at a manufacturer would come out of PIER funding or come out of general PGC, I think that is something we need to dialogue with the CPUC on in terms of their portfolio design, and maybe it comes out of special procurement or special appropriation. At this point, the specific funding source I think are a little up in the air.

MR. DAY: Okay, two more questions then. Would you be tending towards, leaning towards projects that have been initially bedded by the PIER process or would it also be open to products that had not come out of PIER?

MR. JACOBS: From our perspective, it wouldn't be limited solely to PIER research.

MR. DAY: Lastly, if you could just sort of throw a dart at the wall and come up with a timeline as to when some of this stuff might become available or when would you guess that it might -- something like this might start working

in terms of actual checks being cut to somebody
makes widgets?

MR. JACOBS: I can't say.

MR. STONE: It sounds like Michael has a customer.

MR. DAY: Thank you.

MR. JACOBS: Anybody else?

MR. STONE: I just have one really quick comment. It is needling, and I probably should send it in rather than -- something that bothered me all through this was talking about a higher cost as being a market barrier. In fact, the whole discussion of market barriers was a little bothersome.

Cost is not a market barrier. Perception of value that goes along with the cost is market barrier. The reason that I bring that up instead of just letting it go is because it does help shape who you are going to go at and how you are going to do it, what the important strategies are to overcome that.

One set of barriers that I didn't see discussed here at all are regulatory barrier, and I don't mean the kind the BIA will usually bring up that you know all the additional costs are going through and meeting all of the environmental quality requirements, etc.

What I am talking about is inadvertent

barriers from regulations being the way they are in one area, getting in the way being able to do something in the other area. A perfect example is we have been working on utility allowances. The housing authorities are clearly not trying to stop improvements in energy efficiency, but the way their regulations are set up until you work with them, it creates a barrier. There is a lot of opportunities for finding those kinds of barriers that are actually stopping things at least as much as the market barriers that you have identified.

MR. JACOBS: Yeah, just as a quick response to that, we did identify some of those in the section on coordination. As we are going through our literature review and found issues such as that, it did show up there, but thank you. Anybody else?

I guess we decided to put branding off?

MR. TRENSCHEL: Right.

MR. JACOBS: The next one is training and certification. This is very much an infrastructure building issue, and I think we have talked about, several people have mentioned this, we talked about this at the beginning of the session that clearly if these initiatives are going to take off and become effective on a large scale, you need to provide the infrastructure to provide the services envisioned here.

We intend to address that in particular with this intervention, there is a technical training and certification. It is voluntary, although potentially, with some mandatory components for certification.

Essentially through training and certification, we envision improving service quality as well as improving consumer confidence in the services that they are purchasing. We want to build the capacity of the market to provide quality services and train service providers.

We envision the need for some kind of oversight organization to coordinate all of this. Things are fairly dispersed within the community college Voc/Tech and union-based training programs and there needs to be somebody that can help direct this.

The idea specifically is to help provide some training grants for vocational technical schools and community colleges. Right now there focus is very much on college preparatory and they drew very much away from vocational and technical education, provide some grants to help fund programs that are essentially more expensive per student to put on.

Focus also on service providers on providing training for contract to help contractors, commissioning agents and so forth to build capabilities in the market place for the initiatives that we see playing a big role in the overall portfolio.

Also looking at continuing ed requirements for professionals so that they understand the issues associated with energy efficiency, specifically property managers, building operators, real estate agents, lenders, and appraisal professionals. Certainly many of the people in the lending and appraisal industry also hold real estate licenses and they are continuing ed requirements will not only get realtors but also get significant other participants in that market.

Our specific recommendations look to certifying service providers. Use existing organizations to the extent possible. NATE has been brought up for HVAC techs, California Commissioning Collaborative for the Building

Commissioning Association on the retro-commissioning side, and certainly adding energy content to continuing ed requirements for professionals. Comments.

MR. BLAKE: I would like to comment a little bit on this. First a couple of things. Training is of the utmost important for the implementation of any type of energy efficiency programs that we are going to try to do and try to implement.

The existing service techs or the existing people in the field right now have to be further educated or we are going to be spinning our wheels. We have a number of California For Changes on October 1, that mandated 13 units and right after the first of the year a federal mandate is automatically going to save energy.

However, in order to implement all of these things correctly and make sure they integrate correctly together, we have to have a continuing education. A continuing education is not only for voc ed for training in community colleges for the new students, but it is also for the existing people that are in the field, which is a far larger number than the students that are in college. That is where we need to spend a lot of our time educating these students, educating these existing raters and service techs that are out in the field, or installers and salespeople, everybody that is within the industries of energy efficiency.

We also feel in the air conditioning industry, we feel real strong right now that there is so much training that needs to be done in order to bring service techs and people up to date with the new regulations that are coming out October 1, and then after the first of the year that to have mandatory NATE certification is not very prudent at this time.

However, it is important to have NATE certification, but maybe not right now because there is a lot of other things that needs to be -- education that needs to be and classes that need to be taken care of right now first and put NATE on the back burner for a year or two until we can get the people up to snuff on the existing issues.

MR. PENNINGTON: I appreciate your

comments. Just a little info, these recommendations are going to go into a report to the legislature as of October 1. If the

Legislature found them to be useful, they could put them into bills. Perhaps those bills you might see them January of 2006. That would be the fastest you would see them, and they would go through a Legislative session. The fastest you would see that is effective January of 2007, and you know, if there is any sort of start up activities associated with that, that would happen.

These are not going to happen just because these recommendations show up in the Commission's report, you are not going to see it October 6, you know, you are going to have NATE required training sort of thing. There is a pretty long lead time. The dates that I just said are very aggressive relative to actually what may happen. It could be several years before you see legislation go into effect.

MR. BLAKE: We understand that, but what we feel very strongly about is the fact that we need to have existing training taking place right now before we start mandating certification for other programs. We need to do the infrastructure of the existing programs that we have and the existing programs that we want to expand upon right now. When I mean right now, I mean within the next two years or so.

MR. PENNINGTON: I agree.

MR. BROOMHEAD: I think there are two other barriers that are not in your barrier's list. One is that a lot of trades people who have small businesses, at least this is our experience in San Francisco, are reluctant to get into a new area of business, which is the way they see it because they don't know whether or not it is going to pay off. They take the training, and what happens to it, I am going to have to buy some new tools, etc.

They are not certain where the pay off is, is it going to be there. So, part of what we need to do is educate them that here is this opportunity and it is going to be here this year, and next year, and the year after, so that you are actually going to be able to benefit from this change and practice.

The other part is that a lot of the second area that I wanted to mention is that a lot of these guys are tool belt folks, that is what they do. When we go to the ones that are willing to get trained and learn how to do something new, they are reluctant to expand their business because then they will become a paper pusher because they are going to be managing people rather than actually getting their hands on the job.

It is a different kind of job, they see themselves as blue collar workers, not white collar workers, and so there is a hesitancy to grow their business. Now occasionally, you will find somebody who will, and I think the lighting industry has really seen this. We have a few really big lighting companies that run around and gobble up all the incentive money around the state and you know, they will roll their trucks out of Marysville as an army and come down. That is because they have developed this business model, but the guy who runs the show sees himself now as a business man rather than as a lighting installer.

It is a second issue that even when you do get the expertise, they don't want to grow their business very big because they just don't want to be in that kind of work.

MR. PENNINGTON: Do you see any remedies for that, Cal? I think you just hit on a huge barrier, huge.

MR. BROOMHEAD: It means that all of the strategies that you have here are good. We definitely need to have things happening at the community college level and have training programs, but we also -- the other thing that is good that has happened is that we've gone to at least a three year planning cycle for energy efficiency and possibly smoothing out a lot of the bumps in the road that businesses who are considering making a change in how they do business that they can look to at least several years of having an opportunity there to look at.

We need to be better educating them about where the opportunity is and then making sure that they can take advantage of that opportunity. I don't know whether maybe this is a local government issue, but is providing them also how to manage with the concept of growing your business while you are developing this new angle.

Maybe it wouldn't take very much. Here is how to expand your accounting methods, here is

what the tax implications would be, and you know,
an extra hour or two on those kinds of things
might make the owners of those small outfits feel

like they could grown, you know, pick up another truck or two and expand what they are going to do because right now, I do see a problem with infrastructure.

I think one of the other barriers that was mentioned earlier is that looking at refrigeration which we are doing, there are refrigeration contractors that only work on the compressor and the coils and they don't touch the hinges and the door closers and the gaskets and that sort of things. Then there are contractors who are making a specialty of going after the gaskets and the doors. This is another coordination problem.

You go into a small restaurant, that means you've got to bring in two, three, four contractors to meet all of the needs, so it is kind of a fractured marketplace. It makes it more difficult.

MR. TRENSCHEL: Yes, Nehemiah.

MR. STONE: Yes, I will be really quick. In terms of the one barrier that Cal brought up about people not wanting to expand their businesses and become paper people instead of tool belt people. Case studies are probably a really good way to overcome that.

I am thinking about down in Southern California a HERS provider who was real happy being a tool belt guy until his business started expanding, and he hired three or four people, and now he bought himself a brand new truck, and he is able to sell his old house and buy a bigger house, even though he started off thinking of himself as a tool belt guy.

Case studies like that of those successes can help change the mind of some other people.

MR. BLAKE: I think everyone is missing the point just a little bit on the small business man that maybe doesn't want to grow his business. It is irrelevant that he wants to grow his business or doesn't want to grow his business, he needs to be educated in this business or the regulations in order to do his business correctly, so if the rest of the people, the people that he services get a proper product in the end is what we need to do.

MR. TRENSCHEL: Michael.

MR. DAY: Pete, how do you envision tapping into the existing factory training and certification processes that are out there? Just as for example, if you are dealing with something that might get into the refrigeration loop and you have a factory certified liebert technician, and somebody else comes to do a start up or commissioning or something else that touches it, now you are starting to get into the warranty issues, and the two really start to overlap. What is the plan on trying to address those issues?

MR. JACOBS: I think one thing that we recognized through the course of this project is that it is very important that all the manufacturers take in terms of not only providing training and information to their dealers but also in nudging their dealers in a certain direction.

We had some discussion with a fellow from NATE that had mentioned one of the majors was saying, you know, if you want to be a qualified service provider for -- I forget the word, the term, it was special dealer that you need to have all your techs need certified if you want preferential treatment, yeah preferred dealer, yes, that is the status. We recognize that manufacturers are a very important player in the market.

In terms of how this training might impact warranties, we haven't really put much thought into that, but I appreciate your comment.

MR. TRENSCHEL: Anyone else? Bruce, did you have a comment.

MR. CENICEROS: No, I was (indiscernible).

MR. TRENSCHEL: All right.

MR. JACOBS: Okay, the next one. The next one is choice risk protection. This one is somewhat speculative, and it is an idea that we want to float out there and try and get some feedback on. In terms of our portfolio, if we wanted to put something out there that has potentially big benefits, but is somewhat risky, this one would qualify.

Clearly a voluntary intervention, but it is something that might be introduced during program participation. It is basically an optional component added to incentive programs that basically addresses some key market barriers that traditional incentives don't necessarily address, which is risk avoidance, skepticism about the ethicacy of a particular technology, institutional procedures around that technology, reliability of equipment, uncertainty and performance uncertainty.

So, there is this kind of package of market barriers out there that money doesn't necessarily or rebates don't necessarily overcome, and that potentially these could be more potent that the first cost or the value as Nehemiah mentioned before barrier.

Our thought is to basically look at technologies and do some risk assessment, figure out which technologies and programs that promote those technologies are most at risk to participation from some of these performance uncertainty barriers and allocate some fiscal responsibility between the implementers, the providers of equipment, the providers of the services and so forth to look at providing essentially a warranty or insurance pool to cover potential nonperformance of the equipment.

Designing a pilot program to test this out, and there are several other states that are considering similar types of measures and perhaps partnering with those states in terms of pilot program design and exploring this issue in a little more detail.

With that, I will open that for comments. Nehemiah.

MR. STONE: This is actually the one I have the biggest confusion about, and it is partly because it seems to me that if you are talking about a risk of something not delivering what you are expecting, the risk here is not going to be that it is not delivering energy efficiency.

Typically, you are dealing with things that are rated. The risk is going to be that it is going to cause some other problem, some other issue, and that is what most people that we've been dealing with perceive as the risks when we talk to them about something. Who else is doing this, you show me somebody in my neighborhood that has this installed, and let's make sure it hasn't caused something else to break down, etc.

I hope when you are going forward in this, you are thinking not in terms of the risk being that you are not going to get the energy savings that were predicted, but that you are thinking of the risk in everything else that could go wrong because that is where it is really going to come up.

MR. EILERT: I have a comment and a

question, and Greg, you might weigh in here. When I hear John Livingstone talk about the function of the emerging technology program, it sounds a lot like this, just trying to make sure things work as they are supposed to.

My question is what are other states doing? I haven't heard about this before. You said other states were doing something.

MR. JACOBS: Yeah.

MR. EILERT: What is that?

MR. JACBOS: Actually, I need to check on that. This particular section was written by one of our subs, so I'd have to -- I can get more information on that for you.

MR. CENICEROS: Wasn't there a build and guarantee program a utility in Arizona was supporting?

MR. JACOBS: Could well be.

MR. CENICEROS: It was insuring that energy benefits in that particular case.

MR. BLUM: In Arizona they change the build code. The code and the bylaws which prohibits the homeowners association to deny exterior shading devices. There is a code in Arizona and also in Nevada.

MR. CENICEROS: Just to clarify, I was talking about a guarantee that there would be a certain --

MR. BLUM: But --

MR. CENICEROS: -- (indiscernible) energy bills for homes that were (inaudible).

MR. STONE: This is Nehemiah again. Again, if the focus is just on the energy, there is an issue. I mean, let me give you an example. There was a program that helped to establish a procurement standard. I don't remember if it was for a housing authority -- I'm not sure what it was, for Energy Star refrigerators, and so they went through and every time somebody bought a refrigerator, they bought something off this procurement standard that was Energy Star.

The problem was it made a number of the apartments not ADA accessible because the handles did not meet the requirements for ADA accessibility. So, the risk wasn't that it wasn't going to give you the energy savings, that wasn't the problem. The problem was that now all of the sudden you were out of compliance in a whole other area.

MR. BROOMHEAD: I'll add an anecdote.

We just went through the City installing strip curtains and putting in gaskets in a lot of refrigeration in small stores. We just found out this last week that our health department has been going through and asking them to remove the strip curtains because as people go through carrying food, a little bit of the food gets on the strip curtain, and they come back out with something else that gets cross contaminated with whatever was deposited on that strip curtain the week before. You know, there's a problem. We got somebody to spend money on strip curtains, and the health department is telling me to yank them out.

MR. JACOBS: Yeah, Pat.

MR. EILERT: Since the term keeps coming up, PG & E has initiated a procurement standards project that we hope to expand next year and certain folks in this room will be contacted, so get involved.

MR. CENICEROS: Just a general comment of support on this just as an area to explore because it has a lot of merits. I think there are individual contractors out there that have been doing something on these lines that we could learn from, and it is worth keeping in here and looking at these other efforts and seeing what kinds of initiative would make sense, and I think placing emphasis on non-energy risks is the way you are really going to make a difference as Nehemiah was pointing out there.

MR. PENNINGTON: So, Bruce, when you mentioned that there are contractors out doing this sort of thing, what are you thinking about?

MR. CENICEROS: I'm still not sure what types of risks you are including in this initiative.

MR. JACOBS: You know, our focus was on energy, not performance, and I think Nehemiah's point was really well taken.

MR. CENICEROS: Randall can tell you about a couple of contractors who have been doing bill guarantees, that is one type of risk transfer here. A developer has been doing the same thing for the construction also.

MR. JACOBS: Anybody else? Okay, the next one.

Information case studies. We have

decided to put that one off. So, let's go to demand response and review this as having -- again, going back to some earlier comments. There is certainly a lot of emphasis and a lot of work going into this whole area right now, and so, our comments are trying to bring up some different perspectives on this that perhaps might help with the overall discussion.

You know, so that perspective that we are trying to offer is more what some of the initiatives and how they are being formulated and how they are coming down and look at the consumer level.

In general, we support the Energy Commission and the CPUC initiatives. We like time-of-use rates for the smaller customers and real-time-pricing for larger customers. To address Art's comment earlier, certainly we will need new products in R & D to implement automated response, and that perhaps R & D through PIER and looking at appliance standards as a way to bring that capability into the marketplace is a key component.

I think from a consumer perspective, there is a lot of education. I think one thing that we found in our market research is that the acceptance of some of the pilot programs on the consumer level has been fairly minimal, and that there is basically a fair amount of fear and misinformation in the marketplace in terms of how accepting this type of billing strategy might affect a person's bottom line.

One way to mitigate that is through education and looking at shadow bills as a way to show people in real time how their bill might appear with and without demand response before making that switch.

Specific recommendations, you know, we support the idea of mandatory demand response rates. We think that is a good way to go. It is key to moving the state forward in terms of insuring adequacy of supply. Many of the programs from a consumer standpoint putting both demand response and energy efficiency on the same offering makes a lot of sense.

I know from an implementers standpoint, they may be at a cross purposes, from a consumer perspective, energy efficiency affects demand as well as control affecting demand, so and it is all about energy service delivery and mitigating costs from a consumer perspective. So, we would like to at least have the potential for those offers to be packaged in some way, be part of the dialogue.

We recognize that when these things become mandatory, there are certain customers that just won't be able to play and that they may need some financial instruments to help them get passed some of the cross hurdles specifically, people in the hospitality industry and other comfort sensitive customers may need some hedging options against high bills, and that we are currently with thermal energy storage, there is a lot about demand controls. Not a lot of emphasis or a lot of dialogue on thermal energy storage is the way to mitigate peak demand, so we would like to encourage some thought to the programmatic issues and perhaps bringing those technologies back into the discussion.

With that, I am opening to comment.

MR. ANDER: On your last bullet there, programmatic disincentives, are you talking about tariff issues?

MR. JACOBS: It is more has to do with the is that levels being at dollar per ton basis. If you put in a TES and wind up putting in a smaller chiller that runs more hours, so the program incentives don't necessarily play well into people that are contemplating thermal storage, so we have that in there.

COMMISSIONER ROSENFELD: I don't know if I understand that. When -- is this a comment on commercial buildings where the meter is already in place, or is it a comment on future residential rates?

MR. JACOBS: Specifically, the thermal energy storage comment was directed towards commercial buildings. The idea is that incentives right now are based on a dollar per ton basis, and if you put in the thermal energy storage, your cooling capacity is generally low --

COMMISSIONER ROSENFELD: Okay.

MR. JACOBS: -- (indiscernible) --

COMMISSIONER ROSENFELD: (Indiscernible) is poorly structured. The time of these rates which -- (indiscernible) at time-of-use pricing which of course then helps thermal storage quite a lot. You say the incentive hasn't caught up with that, and so --

MR. JACOBS: Exactly, that was the issue.

COMMISSIONER ROSENFELD: Uh-huh.

MR. ANDER: There is a lot of issues with thermal storage systems and lots of litigation from some of the activities --

COMMISSIONER ROSENFELD: Closer to the mike, Greg.

MR. ANDER: A number of organizations are gun shy about thermal storage systems because of some performance uncertainty issues and litigation that happened as a result of very aggressive load management programs from probably eight years ago or something like that.

I know my company for one is a little bit gun shy about thermal storage systems, but we are looking into it. As a matter of fact, Art, as you know, there is merging technology dollars available for demand response solutions. Bob Kinert runs it for PG & E, and that is actually is a technology and control area we are looking at for '05 portfolio.

MR. TRENSCHEL: Yes, go ahead.

MR. DAY: Pete, I just want to bring up that there is some emerging technology specifically the ice energy product that could go into -- that is thermal energy storage. It can go into existing direct expansion systems, both in light commercial and residential, and that if we are looking at something that is a little bit farther out, several years out, we wouldn't want to exclude anything that is going to be here, I mean it is actually in the market now.

MR. JACOBS: Thank you.

MR. TRENSCHEL: Any other comments?

MR. JACOBS: Our last intervention unless we want to swing back and catch some of these other ones, was the interagency/cross program coordination, clearly a voluntary issue. No specific trigger event other than the policy planning calendars.

Certainly as we have gone through our literature and interviews, we have certainly identified situations where there has been issues with coordination.

We understand that there are discussions going on, on how to better coordinate both utility and non-utility program offerings as well as coordinate activities among the various entities involved in both from the CPUC, the Energy Commission, and others. We applaud those efforts.

There are a few particular issues that

we would like to bring attention to in terms of really streamlining from the consumer perspective, their understanding of the various programs that are offered to them and how these suite of programs affects their particular situation.

The issue of referrals, cross program referrals and how individual programs that give and get referrals can take credit for the ultimate energy efficiency gains that may come through those referrals, and also some coordination issues on the evaluation side.

We think it makes sense to provide a central referral system, either through utilities website. I know currently it lives on the Flex Your Power website, although it is a little I think in my opinion it is a little clunky, and that we want to incorporate a broad range of initiatives, including both PGC procurement and Energy Commission programs into this overall coordination effort.

Our recommendations are to in order to have coordination be part of program design to essentially award points for how well coordination is accounted for at the program proposal level, so make that part of the implementation requirements.

Also include in the evaluation plans how to coordinate evaluation studies and also to develop some policies on how some of the referrals and cross program linkages can be allocated when it comes down to attributing savings and so forth for programs both offering and receiving referrals.

Comments? Nehemiah.

MR. STONE: What you brought up here is a really big deal, and I very much support making sure that all of those considerations are including with the program implementation with the PUC dollars.

However, there is a whole other area of interagency that I've mentioned a coordination that I mentioned a couple of times, and I don't really see any discussion of that, and for some market segments, those programs make a whole lot difference than anything the PUC is doing.

Bill, you and I have talked about already that some coordination needs to happen with TCAC and CIDLAC put together their regulations for how they are going to give out their money, and it is a lot more money than the PUC is giving out to affordable housing for example.

There are other things like that, they are not linked with the PUC, but the Energy

Commission still needs to coordinate to make sure that these other agencies get their incentives right in their programs.

COMMISSIONER ROSENFELD: Can you give more specific example, Nehemiah?

MR. STONE: Yes. Tax Credit Allocation Committee handles both the state and federal low income housing tax credits. To get those credits, you go through the scoring system, you get points for doing all sorts of different things. They have in the last three years, they have where you get five points for being at least 15 percent better than Title 24, and up to another three points out of seven or eight possible for including other items like 75 percent of all your lamps would be CFL or things like that, or they are all Energy Start appliances.

The only people advising them -- we try somewhat, but the only people actually advising them on how that should work is a nonprofit housing association and Global Green, both of whom are very very good at what they do, neither of whom knows about energy efficiency. Certainly neither of which knows anything about the code, the Title 24.

What you have is you have things that are somewhat at cross purposes. Just for example, two years ago, you've got four percent base boost for being 25 percent better than the code. That means you've got four percent, you could potentially get four percent more money. The next year it went down to three percent basis boost for being 15 percent better.

Excuse me, it goes 3 percent for being 25 percent better and went up to being 4 percent more money for being less efficient, you know, 20 percent instead of 25.

I mean those sorts of things, there is no reason why they -- I believe those agencies would welcome you with open arms if you asked for the opportunity to be part of their rule making process when they are setting things that have to do with energy efficiency.

Cal HFA, TCAC, CIDLAC, they all have energy efficiency as part of their review process in the programs that they are offering.

COMMISSIONER ROSENFELD: That is very

interesting. It sounds like you should write down a few of these very convincing ideas and send them to Pete.

MR. BLUM: I was years ago, I was member of CABEC, the California (indiscernible), and we were at Howard Street, it was about 30 men, and it came from our basically some frustration. They said we sign up the building (indiscernible) and then the customer comes back and says, okay, I did everything you wanted me, and my house is hot like hell.

Then I carefully said how about the windows, and then I got the answer, hey, we cannot do anything, you go to Sacramento and change the code. I see so many years later and we basically have no initiative to do something about exterior shading. Is that a possibility that we can go back and reopen the Title 24 or look into the possibility that it makes sense.

COMMISSIONER ROSENFELD: Bill Pennington has escaped.

MS. HUSSEY: He will be back.

COMMISSIONER ROSENFELD: He will be back. As I understand it, this is something you know very well. Title 24 has problems with

operable shades because we don't know how much
credit to give people. Clearly (indiscernible)
with some average efficiency. Oh, here's Bill,

sorry.

MR. PENNINGTON: No.

(Laughter.)

COMMISSIONER ROSENFELD: Bill and I think are agreed that we need some sort of a study convincing study that these things do work, maybe only half as efficiently as they should, but do some good and should get some credit.

MR. BLUM: I made a lot of studies, and one of them is you know what basically is subsidized by Sacramento, fixed screens. I compared by simulating minus about two inches away and .1 inch that fixed screen, and the difference is 118, the 2 inch was 149 degrees.

In San Jose at a screen shop, you said, well --

COMMISSIONER ROSENFELD: I didn't understand your numbers.

MR. BLUM: 118 was the screen which is two inches away, but if you make where they could subsidize it and fix back screen framing and have their screen and clip it to the window frame, the screen gets awful hot, and now the heat gets transmitted. You need that vent situation.

COMMISSIONER ROSENFELD: I know that,

you need the ventilation, right.

MR. BLUM: It makes a difference. The San Jose screen shop, he told me, yeah, I said make one inch spaces, and he did next time on the home show he tapped me on the shoulder and said, Helmut, thank you, that works. It shows that if you do it right, it works.

What you have here right now, we are giving money out for something which is half way. If we do it properly with screens on the outside, then we will win and it works. I know this, it works. I have 5,000 customers. None of them came and said, hey, I want my money back, you know. I can guarantee it works, and I think it is about time that somebody seriously thinks about it. This is too much energy we are losing here too much money, losing, you know.

Like Bruce, he has six screens on his windows, and I just opened this, and he is probably not quite a little bit happy. Make a space of one inch and then you can report a year later what the difference was. The ventilation of the screen is a necessity to do that.

COMMISSIONER ROSENFELD: You are suggesting two different things. You are suggesting that one can make an improvement in the effectiveness of a fixating device --

MR. BLUM: That's possible, yes.

COMMISSIONER ROSENFELD: -- by having ventilation between the screen and the window?

MR. BLUM: Yes.

COMMISSIONER ROSENFELD: That is pretty convincing to me. Then there is the operating.

MR. BLUM: The other operating, and Bruce would not have to take it off during the winter time. You can roll it up and leave it there.

MR. TRENSCHEL: I think we just heard the five minutes you were promising to give earlier, or did we not?

MR. BLUM: Can you be so kindly and give me a couple of more minutes, then I explain very quickly what I found out. Here, let me say that sun provides us with your real and infrared light, invisible light.

When you go to your car and touch the windshield it is either warm or hot. Inside it is

surely hot, and what is the problem. The infrared
light is (indiscernible) wave which glass stops
and uploads its energy to the windshield or

wherever.

In the car, there is a shortwave UV light which has the same structure in the wave length like glass structure (indiscernible). It walks through the glass and ever opaque, it heats it up, converts it to heat, it becomes a (indiscernible) wave and cannot get out anymore.

COMMISSIONER ROSENFELD: It is called a greenhouse.

MR. BLUM: Yeah.

COMMISSIONER ROSENFELD: It is the greenhouse, yes.

MR. BLUM: You see, here is another thing what I found out, let's say you have on the outside 120 degrees in the house you will never get more than plus or minus 90 degrees on 90 degrees plus/minus. That is the wonderful thing where I can always guarantee success because 90 is too much, we cannot live in it. I have to bring it down in the vicinity of 80 and below.

Exterior shading has the potential of 10 to 40 degrees, and it is a piece of cake to bring the temperature down these five or ten degrees, mostly on five degrees. Whenever I do it, I leave supplies behind me, you know. People cannot believe it that it works, and it works.

When I started business, there was always a question why outside and why not inside, and you know, make our shade and do it on the inside, particularly make our shade. I was once in an airplane, and they said, Helmet, I know exactly what you are talking, you will be poor and I will be rich, and he does everything on the inside.

You know, the people who I worked with from Livermore Berkeley Lab who investigated my product and I have still the infrared pictures. He said, Helmet, by changing the windows from the 40 to 50 percent was good for windows and doors, we accomplished 10.

They checked mine and said was yours we would have caught the whole caboodle, sorry it is so late, they all get pat on the shoulder and get their awards, and the thing was over.

We talked with Darius Arajtez, Paula Berg, and George Loisos, and they can all confirm that. George Loisos called me and said, Helmet, make shading on the inside, (indiscernible) in South San Francisco, you can have the building and the administration building, you can have the whole house, but inside. I said, no, I just refused because inside is cheating. You do not really accomplish what you want, you have to go on the outside.

Thank you for your time. I appreciate it a lot.

COMMISSIONER ROSENFELD: If you'll give me your card, Helmet I'll talk to you off the line. I think I agree that we need a little more attention to this issue, and maybe we need to look up some of the old LBL reports.

MR. BLUM: I give you this report I investigated in double glass, low e double glass, and single glass. Low E and the double glass get hotter than the single glass. It is natural, you know, you cannot real light, but they are better insulators, so they keep the heat better. If you switch to double glass, you always get hotter.

COMMISSIONER ROSENFELD: I have your card.

MR. TRENSCHEL: All right. One last comment.

MR. BLOMBERG: Are you going to limit me
too?
MR. TRENSCHEL: I can't hear you, Jerry.

MR. STONE: I think we might need to, Jerry.

MR. BLOMBERG: I just want to make a supporting comment about what we are trying to do here, and that is a couple of weeks ago at the Light Fair International in (indiscernible) New York, there was a luncheon speaker, a very environmentally focused architect, international architect, that is designing a city from scratch in China for two million people, and he described what he was doing, and the interesting thing was that China has a program to building housing for 400 million people in the next ten years which is equal to rebuilding the United States in seven.

So, if you don't think we are going to have resource wars, you are wrong. It isn't just going to be for energy, it is going to be for concrete and steel and everything else. We need to do everything we can to tighten up our buildings and make it more efficient and reduce bureaucracy and whatever it is going to take to be more efficient. That is my comment.

MR. BLUM: Can I add something to it. I request years ago --

MR. TRENSCHEL: Not if it is regarding

shade screen.

MR. BLUM: -- three Chinese people, one was (indiscernible) trade in Germany, and he says he knows everything about shutters and can come over and joint venture, and my answer was, send me three million and my business is yours. I never heard from him again.

MR. TRENSCHEL: Well, I think we've pretty much wound up for the day in my view, and I can see looking around here, that everyone else would probably agree with that.

I just wanted to say, also reiterate that if you have other written comments, we will be glad to take them through Friday, and you can do that and send them either to me or through the AB 549 website or the e-mail address for AB 549, and they will get to us just fine.

The transcripts for today's meeting will probably available in about ten days or so, so if you are interested in those, please drop me a line, and I will let you know when those are available as well.

MR. LOVELACE: Dale, (indiscernible).
Do you have time for one question.
MR. TRENSCHEL: Sure.

MR. LOVELACE: I may have missed it, but can you tell me when these base program prioritization process is going to take place and maybe describe a little bit about how the priority will be assigned.

MR. TRENSCHEL: That was Ed Lovelace on the phone from Edison. I am not quite sure I understand. You mean in terms of what the next steps are here in our report?

MR. LOVELACE: We have 17 initiatives, and I was wondering we can get down to the business of prioritizing the recommendations?

MR. TRENSCHEL: I think there will be a priority listing in the final consultant report, and I believe we are going to try to get those on line about June 6 or so.

MR. LOVELACE: Okay, that was part of my question was I wonder if that would include a description or explanation of how the priorities were assigned?

MR. JACOBS: The answer is yes.

MR. TRENSCHEL: That was Pete Jacobs

answering you.

MR. LOVELACE: Okay, thank you.

MR. TRENSCHEL: Okay, nothing else, then

thank you all again for coming.

(Whereupon, at 4:05 p.m., the workshop was adjourned.)

--oOo--

CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 12th day of May, 2005.

Peter Petty